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THE
NATURAL HISTORY
OF
BRITISH INSECTS;
EXPLAINING THEM
IN THEIR SEVERAL STATES,
WITH THE PERIODS OF THEIR TRANSFORMATIONS,
THEIR FOOD, OECONOMY, &c.

TOGETHER WITH THE
HISTORY OF SUCH MINUTE INSECTS.
AS REQUIRE INVESTIGATION BY THE MICROSCOPE.

THE WHOLE ILLUSTRATED BY
COLOURED FIGURES,
DESIGNED AND EXECUTED FROM LIVING SPECIMENS.

By E. DONOVAN

VOL. IX.

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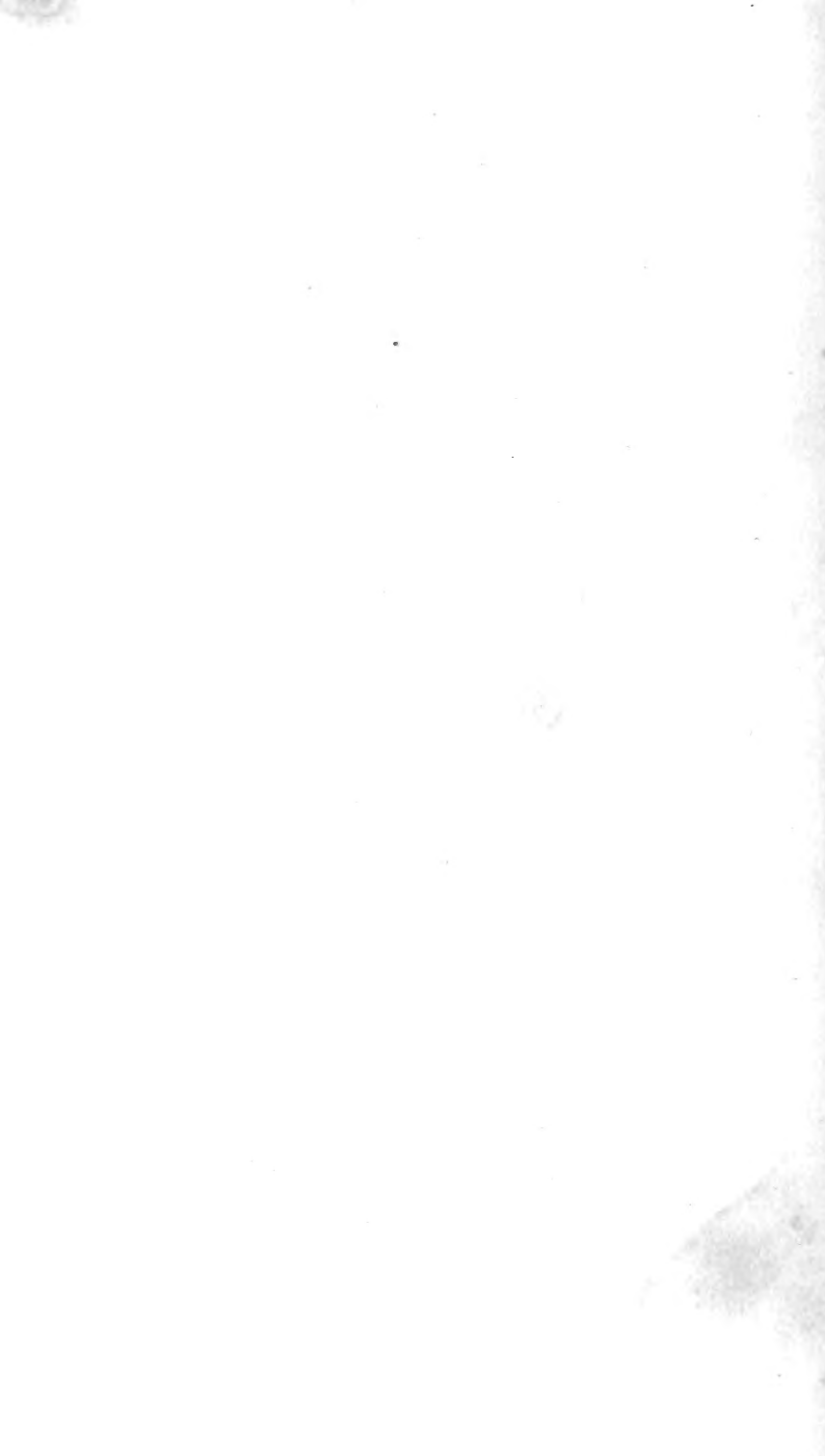
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P L A T E D X L I I I .

P H A L Æ N A M A R G A R I T A R I A .

L I G H T E M E R A L D M O T H .

L E P I D O P T E R A .

G E N E R I C C H A R A C T E R .

Antennæ taper from the base : wings in general deflected when at rest. Fly by night.

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S .

Wings angular, whitish green with a deeper band terminating in a white streak.

P H A L Æ N A M A R G A R I T A R I A . *Linn. Syst. Nat.* 5. 865. 231.

P H A L Æ N A M A R G A R I T A R I A : alis angulatis albidis : saturatiore striga alba terminata. *Fab. Ent. Syst.* 3. 131. 10.

G E O M E T R A M A R G A R I T A R I A . *Hüb. Schmett Geom.* 3. 13.

Inhabits England and Germany in woods, and feeds principally on the Carpinus and Betula. The Moth appears in July and August. Its larva is described : the form is elongated, with two white dots on the last segments : tail bifid, and feet twelve in number.

Both sexes of this Moth are represented in the annexed plate ; that with the antennæ larger or more deeply pectinated is the male.



P L A T E CCLXXXVII.

FIG. I.

PHALÆNA PAPILIONARIA.

LARGE EMERALD MOTH.

GENERIC CHARACTER.

Antennæ taper from the base. Wings in general deflexed when at rest. Fly by night.

SPECIFIC CHARACTER.

Antennæ feathered. Wings green: a continued streak of whitish semicircular marks across the middle of each, and an interrupted or half streak of the same colour below it.

PHALÆNA PAPILIONARIA: pectinicornis alis subrepandis viridibus: striga sesquialtera repanda. *Linn. Syst. Nat.* 2. 864. 225.—*Fn. Sv.* 1247.

Wien. Verz. 96. 1.

Roef. Inf. 4. tab. 18. fig. 3.

A rare and very elegant British species. The larva is green, with about ten incurvated spines or hooks along the back. It is found in this state on the Birch and Alder in June, changes to the pupa the latter end of the same month, and appears on the wing fourteen days after.

The pupa is green variegated with yellow.

FIG. II.

PHALÆNA PENNARIA.

SPECIFIC CHARACTER.

Antennæ feathered; Wings indented reddish: two dark streaks across the anterior pair, and a distinct white spot near the apex.

PHALÆNA PENNARIA: pernicornis alis subdentatis rufescentibus: strigis duabus fuscis punctoque apicis albo.

Linn. Syst. Nat. 2. 861. 209.—*Fab. Ent. Syst.* 3. p. 2. 132. 14.

The larva smooth reddish brown; found on Fruit-trees

FIG. III.

PHALÆNA BILINEATA.

SPECIFIC CHARACTER.

Antennæ fetaceous, Wings yellow undulated with brown streaks, and a broad wave across the anterior pair.

PHALÆNA BILINEATA: feticornis alis luteis testaceo undatis: fascia repanda, margine fusco. *Linn. Syst. Nat.* 2. 863. 245.—*Fn. Sv.* 1284.

Clerk. Icon. tab. 6. fig. 13.

Very abundant in White-thorn hedges during most part of the Summer.





P L A T E CCCXXXVI.

P H A L Æ N A P I N I A R I A.

PINE MOTH.

G E N E R I C C H A R A C T E R.

Antennæ taper from the base: wings in general deflected when at rest. Fly by night.

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S.

Antennæ feathered: upper side brown, with broad yellowish spots in the disk: beneath mottled, and clouded with two dark bars across the posterior pair.

P H A L Æ N A P I N I A R I A : pectinicornis alis fuscis flavo maculatis
 subtus nebulosis: fasciis duabus fuscis. *Linn.*
Syst. Nat. 2. 861. 210.
Fn. Sv. 1233.
Fab. Ent. Syst. T. 3. p. 2. p. 141. sp. 45.
Clerk. phal. tab. 1. fig. 10.
Schæff. Icon. tab. 159. fig. 1. 2.

This rare and curious species of *Phalæna* has been for some years admitted in the cabinets of English Natural History, but on the most dubious authority. That it is an inhabitant of Great Britain, is

however now ascertained, for in the summer of the present year, about the last week in June, it was observed in great plenty in a fir wood at Crathis, on the north bank of the river Dee, in Mearns-shire, Scotland, by George Milne, Esq. of Surrey Place, Walworth. They seldom fly low, and are consequently taken with some difficulty.

The larva is green, streaked with white and yellow, and feeds on the Pine. Linnæus and Fabricius add the Lime and Alder also.





P L A T E CXXXII.

P H A L Æ N A L U N A R I A.

BEAUTIFUL THORN-MOTH.

LEPIDOPTERA.

G E N E R I C C H A R A C T E R.

Antennæ taper from the base. Wings, in general deflexed when at rest. Fly by night.

S P E C I F I C C H A R A C T E R.

Antennæ feathered. Wings angulated, indented; a *lunar* spot near the center of each. General colour, pale red brown, clouded and speckled.

Kleman Inf. 3.

Fab. Spec. Inf. 2. 245. 18 ?

We have been furnished with the larva of this extremely rare Insect in a singular manner: a wasted specimen of the female was taken in the Summer of the year 1794, and deposited a quantity of eggs in the box in which it was stuck; these hatching some time after, a great number of young Caterpillars were produced; several of a full size, passed to the pupa state, (in a reddish web spun on the leaves) and four fine Moths came forth last Summer.

The eggs were very minute, perfectly globular, and of a pale greenish colour: the cluster consisted of more than seventy, and few of them proved abortive; but some of the largest Caterpillars devoured

voured the rest, and many others wandered from the food, and perished. The Moths were far superior for the beauty and richness of their colours to any specimens we have seen before; but this is not remarkable, as most of the specimens preserved in Cabinets near London, have been taken in the winged state.

It feeds on the lime; is found in the Caterpillar state in August; the Moth appears in June. Is sometimes taken in the interior part of Darent-Wood, Dartford; and rarely elsewhere near London. It has been met with also at Feverham, in Kent, on the Elm.

Kleman, in the last volume of German Insects, lately published, has given three figures of this Moth; but has neither figured the Caterpillar nor Pupa. *Fabricius* is the only systematical Writer who appears to have noticed it.



P L A T E CLXX.

PHALÆNA SAMBUCARIA.

SWALLOW-TAIL MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base. Wings in general deflexed when at rest. Fly by night.

Geometra.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings angulated, pale yellow, with two transverse lines on each. Second wings with a tail each, and two black spots.

PHALÆNA SAMBUCARIA: pectinicornis, alis caudato angulatis flavescentibus, strigis duabus obscurioribus, posticis apice bipunctatis. *Lin. Syst. Nat.* 2. 860. 203.—*Fn. Sv.* 122.

Phalæna feticornis spirilinguis, alis patentibus fulphureis, linea duplici transversa obscuriori, inferioribus caudatis. *Geoff. Inf.* 2. 138. 58.

Phalæna

Phalæna media ochroleucos, alis amplissimis, exterioribus duabus lineis transversis, e fulvo virentibus, interioribus, una divisis. *Raj. Inf.* 177. 1.

Phalæna antennis filiformibus, alis latis angulatis luteis, strigis duabus obscurioribus. *Degeer Inf. Vers. Germ.*

2. 1. 327. 3.

Albin Inf. tab. 94.

Roef. Inf. 1 *phal.* 3. *tab.* 6.

Petiv. Gazoph. tab. 51. *fig.* 6.

Wilks pap. 38. *tab.* 1. 6. 2.

Clerk. Icon. tab. 50. *fig.* 2.

Schæff. Icon. tab. 93. *fig.* 8.

Sepp. Inf. 6. 1, *tab.* 1.

Wien Verz. 103. 1.

Insects, when in the larva state, have various means of protecting, or concealing themselves from other species that would annoy them, as well as from birds who prey on them. This remark is partly justified by the subject of our annexed plate, the larva of which we find is not furnished with any means of defence when attacked: nor of agility to run away, or secrete itself from its enemies; but to compensate for this, nature has formed it with a skin of such a colour, and structure, that its greatest safety is in its inaction. We frequently see it fastened by its hind feet to a small twig or branch in such a posture, that unless it moves, it is scarcely possible to discover it. It is sometimes in an erect position, at others with its head downwards, but in an oblique position; and, as it hangs in this manner, without the least appearance of life for a considerable time, it exactly resembles a small twig of the branch to which it is attached.

The caterpillars are not uncommon in April, or early in May. It feeds on several plants; particularly, when in confinement, it prefers bramble, or white thorn. It is found in the winged state in June, so that it remains a very short time in chrysalis.





P L A T E CCXIX.

PHALÆNA PRODROMARIA.

OAK-BEAUTY MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ fetaceous. Wings in general deflexed, when at rest.
Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Antennæ feathered. Wings white, speckled with numerous black spots. Two broad bars of dark brown on the upper wings.

PHALÆNA PRODROMARIA, pectinicornis alis albis nigro punctatis :
fasciis duabus latis fuscis. *Fab. Ent. Syst. T. 3. p. 1.*
159. 105.

Phalæna Prodromaria. *Wien. Verz. 99. 1.*

The larva of this Moth, like others of the *geometra*, raises itself, when walking, into the form of an arch or loop: it is of an obscure grey and brown colour, faintly mottled: the head is red. This larva is seldom taken, and when taken, is reared to the fly state with the utmost difficulty. It seems a local species; for we have

have never heard that it has been found, except on the Oak trees * in *Richmond Park*. It feeds on the highest branches of the trees, but descends into the earth to become a pupa. It appears in the fly state in March.

The male Insect is considerably smaller than the female. Its horns, or antennæ, are also larger, and more feathered. This is a scarce Insect. It is found in Germany; and a variety of it has been received from North America.

• It feeds also on Lime trees.



P L A T E CCXXXVII.

PHALÆNA BETULARIA.

PEPPERED MOTH.

GENERIC CHARACTER.

Antennæ taper from the base : wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Antennæ pectinated, with setaceous tip : wings entirely white, speckled with black,

PHALÆNA BETULARIA: pectinicornis, alis omnibus albis, thorace fascia nigra, antennis apice setaceis. *Linn. Syst. Nat.* 2. 862. 217. *Fn. Sv.* 1287.

Fab. Spec. Inf. 2. 252. 56.

PHALÆNA antennis pectinatis, alis horizontalibus albis nigro punctatis maculatisque, thorace faciato. *Degeer. Inf. Verz. Germ.* 2. 1. 250. 1. tab. 5. fig. 18.

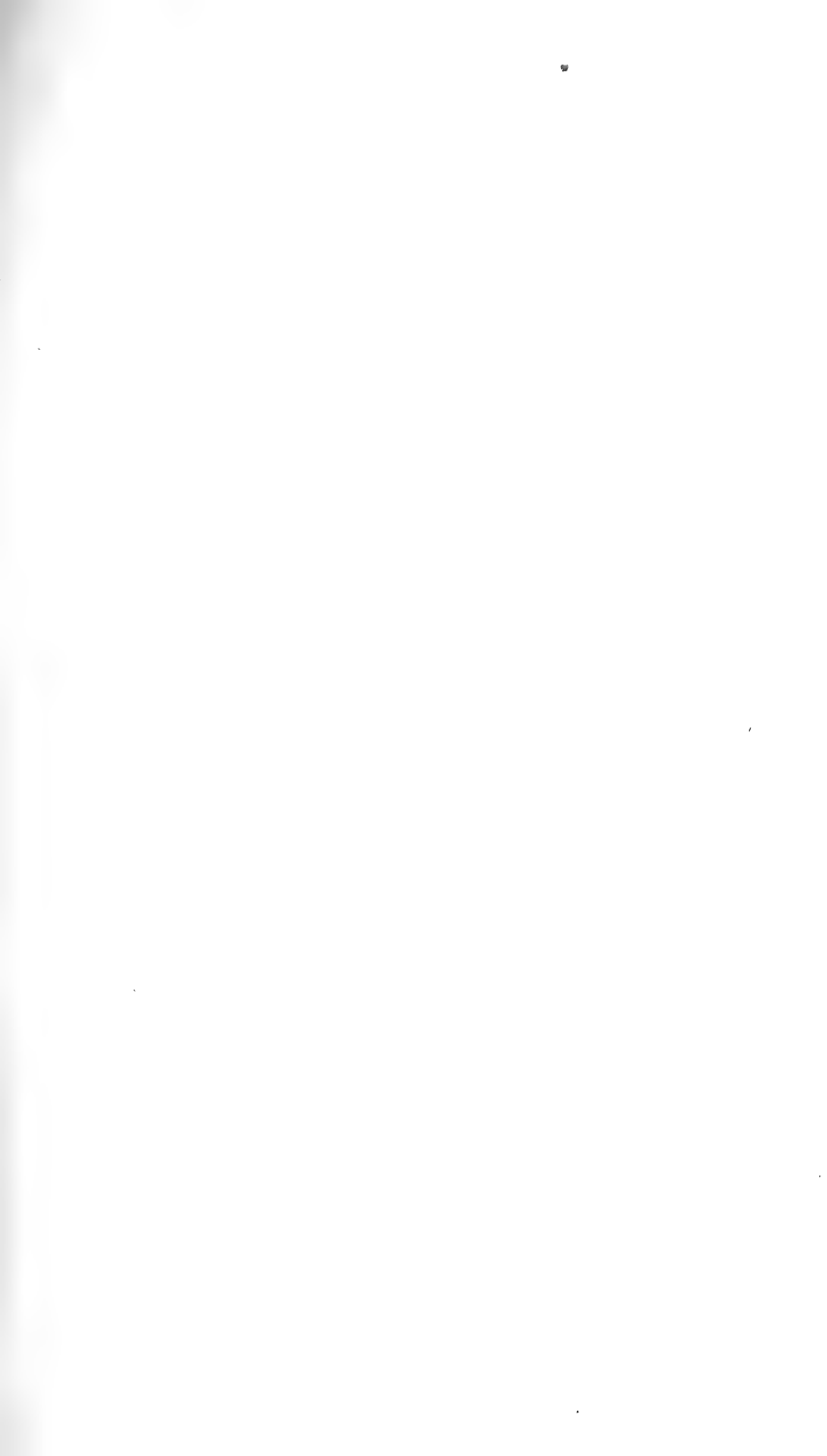
Ammiral. Inf. tab. 21.

Schæff. Icon. tab. 88. fig. 4. 5.

Albin. Inf. tab. 91, 92.

Kleman. Inf. 1. tab. 39. fig. 6.

Found on the Lime, Willow, and Elm in the state of Larva, changes to the Pupa in September; and the Moth appears in May. The Larva of this creature differ very much in their shades of colour; they are generally blackish or dark olive with a few obscure red spots.





P L A T E IV.

PHALÆNA GROSSULARIATA.

MAGPYE, or CURRANT-MOTH.

GENERIC CHARACTER.

The Antennæ fetaceous. Wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings whitish, with round black spots, and a yellow streak on the anterior pair.

PHALÆNA GROSSULARIATA: alis albidis: maculis rotundatis nigris, primaribus strigis luteis. *Linn. Faun. Suec.* 1261.

The Magpye-Moth is one of the *geometræ*; and feeds on Gooseberry and Currant-bushes, as the name indicates. The Caterpillar is found in *May*; and in *July*, the Fly,

The Caterpillar, previous to its change to the Chrysalis state, spins a web of a very flight and delicate texture, by which it is suspended horizontally against the branches of trees, &c. as in our Plate represented.

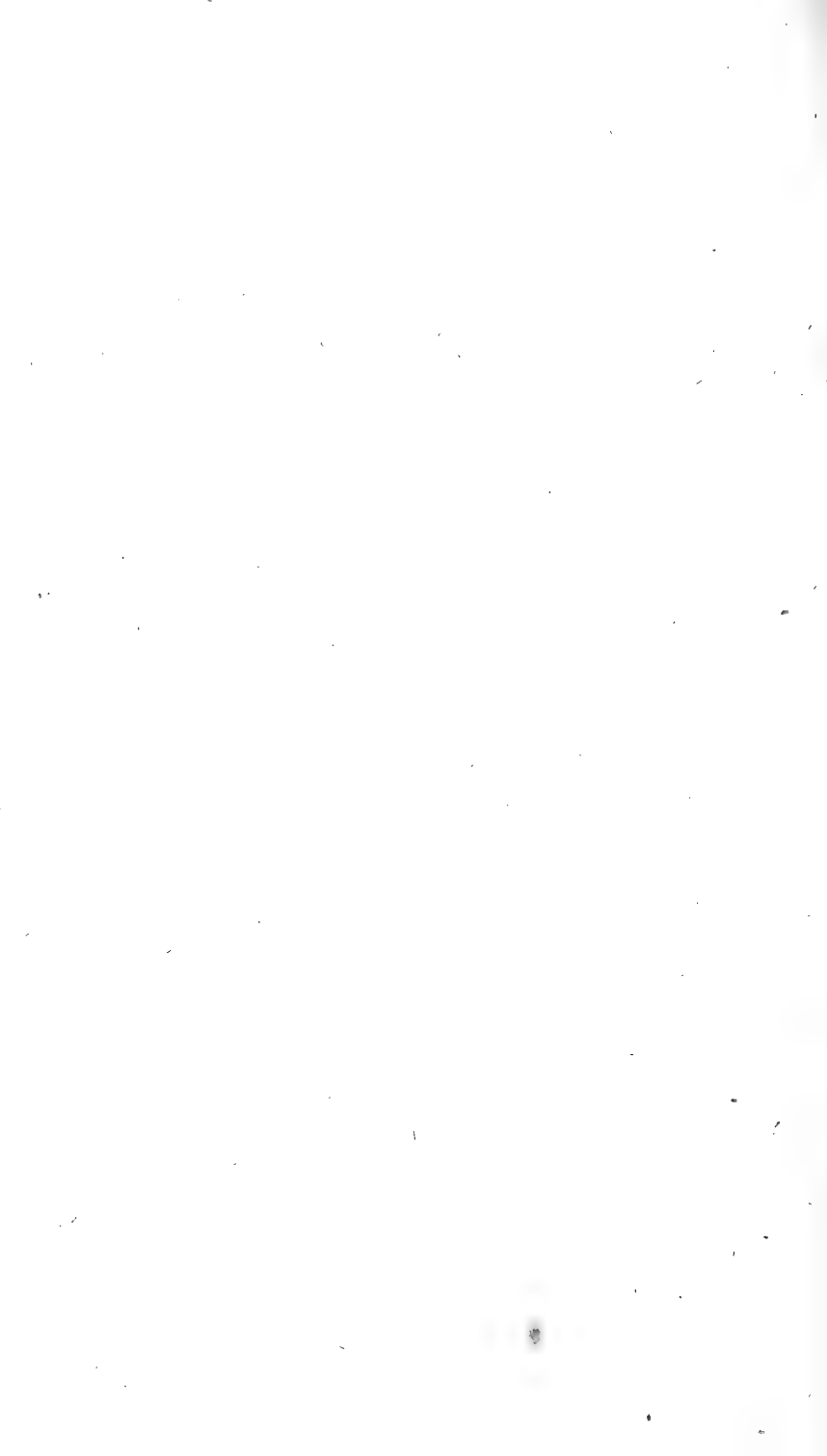




PLATE CCCXXXIII.

FIG. I.

PHALÆNA REPANDARIA.

THE MOTTLED BEAUTY.

GENERIC CHARACTER.

Antennæ taper from the base : wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER.

Antennæ pectinated : wings grey, undulated, clouded with brown, and furrounded with a black waved marginal line.

PHALÆNA REPANDARIA : pectinicornis, alis cinereis : omnibus fusco-undatis ; posticis margine repando atro.

Phalæna repandata. *Linn. Syst.* 866. 235.—*Fn. Suec.* 1260. *Kleeman Inf.* 1. t. 14. fig. 1. 2. t. 28. f. 1.

The two Moths figured I. I. in the annexed plate are supposed to be the male and female of the same species. Taken in June, about Willows.

F I G . I I .

P H A L Æ N A C O N S O R T A R I A .

T H E P A L E O A K B E A U T Y .

S P E C I F I C C H A R A C T E R .

Antennæ feathered: wings pale greyish, waved with brown: an ocellar spot, with an oblong white pupil in the middle of the posterior wings.

P H A L Æ N A C O N S O R T A R I A : p e c t i n i c o r n i s a l i s d e n t a t i s g r i s e i s f u s c o
f r i g o f i s : p o s t i c i s p u n c t o o c e l l a r i o b l o n g o a l b i d o ,
Fab. Ent. Syst. 3. b. 137. 29.

Found on the Oak in June.





PLATE DXIV.

PHALÆNA CONVERSARIA.

LARGE BANDED CARPET MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base: tongue spiral: wings in general deflected when at rest. Fly by night.

Geometra.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings pale brown, with dark fuscous middle band, and greyish indented common band behind: posterior legs deeply ciliated.

GEOMETRA CONVERSARIA. *Hübner. Schmet.* 62. 321?

This interesting acquisition to the British Entomologist was discovered by Mr. W. E. Leach, the latter end of August, about the year 1807, in Warley-wood, at Tamerton, near Plymouth, Devonshire.

The size of this insect is considerable, the colour above pale brown, with a rich dark fuscous band across the middle, and immediately behind it, a broad and very pale common band, circumscribed above by an angulated, and beneath by an indented palish line. The whole surface is sprinkled with specks of brown. The under surface is paler, with more obsolete speckling, and some blotches of fuscous, forming an interrupted common band in the middle. The four anterior legs are naked as usual, the two posterior deeply fringed with fine hairs.



PLATE DXXVII.

PHALÆNA ROBORARIA.

GREAT OAK BEAUTY MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base : tongue spiral : wings in general deflected when at rest. Fly by night.

Geometra.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings indented, grey with numerous brown streaks and specks : beneath whitish, lower wings, with a fuscous lunule in the middle.

PHALÆNA ROBORARIA : pectinicornis alis dentatis griseis : atomis strigisque numerosis fuscis. *Fabr. Ent. Syst. T. 3. p. 2. 137. n. 23.*—*Esp. T. 5. f. 2.*

Several

Several very beautiful, and rather distinct varieties of this fine species occur in Austria: that which we have delineated is the only variety, however, we believe found in England, where it appears to be extremely uncommon. The species we apprehend to be rare on the Continent, as well as in England, Fabricius referring expressly to the cabinet of Mr. Scieffermyller, for the example he describes.

Phalæna roboraria is nearly allied to the species of *geometra*, denominated by English collectors the "mottled beauty," (*Phalæna repandaria*) from which it is distinguished by the superiority of its size, and some little variation in the form and disposition of the fuscous lines on the wings: the dissimilarity is evident on an accurate comparison, but is not so obvious at the first view.

Fabricius describes the larva as being of a grey brown colour, with a darker dorsal line, and curves on the segments, and according also to this writer the larva feeds on the oak, whence it obtains the trivial appellation of the great oak beauty.





P L A T E LXXXII.

PHALÆNA USTULARIA,

EARLY THORN MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base. Wings in general contracted when at rest. Fly by night.

* *Geometrae*.

Antennæ of the male feathered; of the female setaceous, or like a bristle.

SPECIFIC CHARACTER.

Wings angulated, indented, light brown varied with shades of a scorched colour. Three waves of dark brown across each superior wing; together with a spot of orange or bright brown colour, at the base, and another nearly of the same colour on the exterior margin of each.

Among the several Moths of the *Geometrae* division of Phalænæ which are known to the English Collectors by the trivial distinction, *Thorn Moths*, our present Insect is neither the most conspicuous, or rare; it is however a beautiful creature when taken immediately from the Pupa case, but rarely fine, when caught in the fly state, in the fowling-net; the down being of such an exquisite texture that the slightest touch must inevitably damage its appearance.

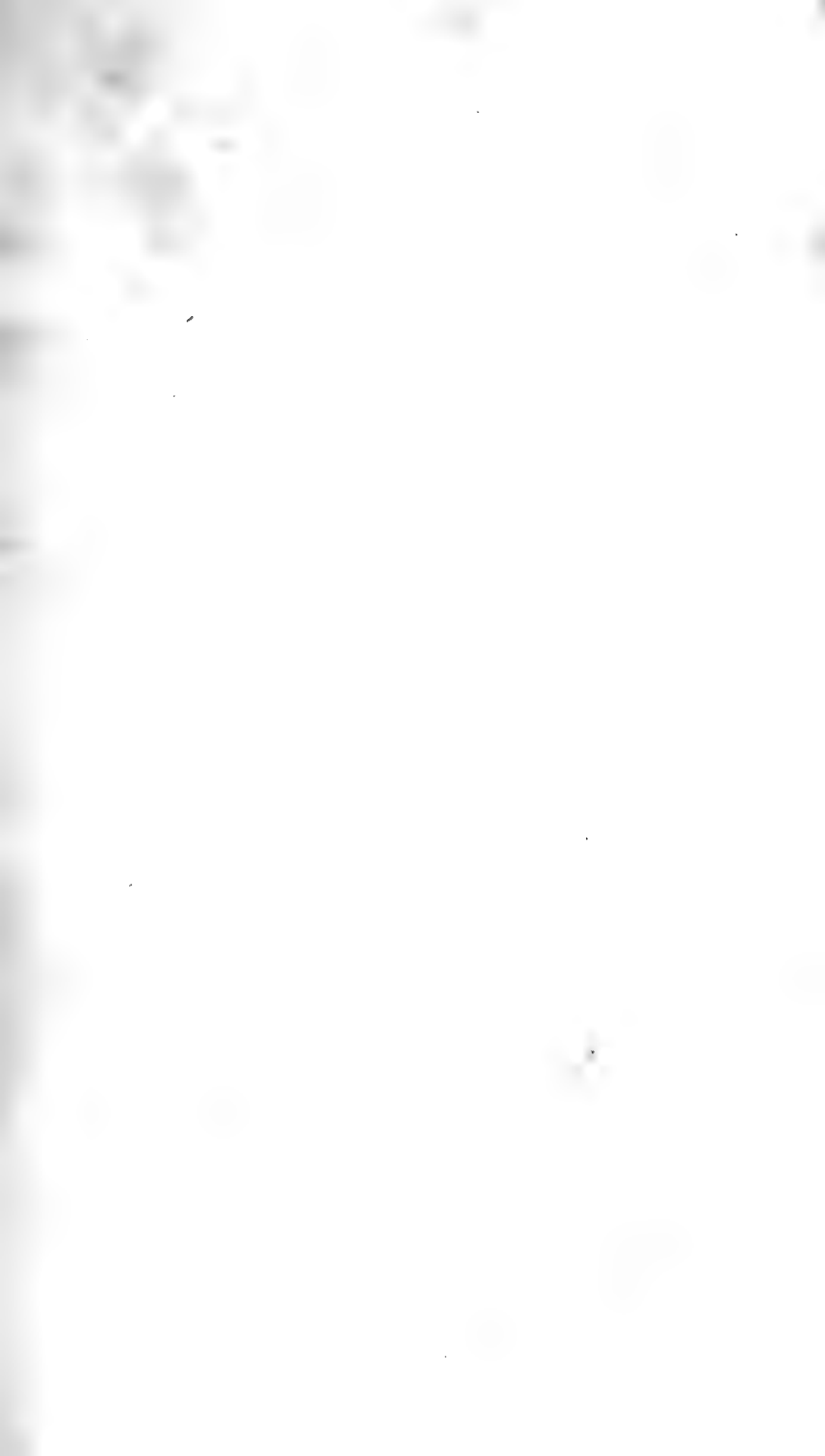
The Pupa is marked with a brown colour at every annulation immediately after the Caterpillar has passed to that state, but as the creature within becomes more perfect, that brown is gradually changed to a dark, or black colour.

I have observed much variation in the colours of different specimens of this species; of three male Insects which I have bred this season, one only corresponded with the annexed figure, one inclined much more to a red brown, and the other to a dull purple.

I met with the Caterpillars on the oak, and they always preferred that food to any other. The Caterpillars are small in July, they pass to the Pupa state in Autumn, and the Moths are to be taken about the middle of March.

Although, as we have just observed, this Insect does not particularly claim our regard as a rarity, it does not appear to have been described by *Linnaeus*, or even by *Fabricius* in his *Species Insectorum*; and no account of it is included in *Berkenhout's Outlines*, in *Harris's Catalogue of English Insects*, or any other work we have had an opportunity of perusing.

In its manners, the Caterpillar is not more singular than in its form; when young it is very active and in continual motion; but as it grows larger it becomes more sluggish in its disposition: it will sometimes affix itself by its hind feet to one of the extreme branches of the tree on which it feeds, in the same manner as shewn in our plate, and will remain in that posture several hours without the least apparent signs of life.





P L A T E XCVII.

P H A L Æ N A L U C I D A T A.

DARTFORD EMERALD MOTH.

LEPIDOPTERA.

G E N E R I C C H A R A C T E R.

Antennæ taper from the base. Wings in general contracted when at rest. Fly by night.

S P E C I F I C C H A R A C T E R.

Fine lucid green, two white waves across the upper, and one across the under wings.

This species we have ever found peculiar to the woods about two or three miles beyond Dartford (Kent), particularly on the skirts of Darnwood, and near the banks of the river Thames at Queenhithe; it has probably never been taken elsewhere, or the name Dartford Emerald would not have been so generally adopted by Collectors.

It is not very frequent even in those local situations, nor can we learn that its larva and pupa state has been ascertained before; the species has neither been described by *Linneus* nor *Fabricius*; *Harris* does not mention it in his catalogue of English Moths, nor has a figure of it been given in any preceding publication that have come under our inspection.

The specific name is intended to express the lucid or transparent appearance of the Insect.

I am not certain whether in the larva state it feeds on the *Convulvulus*, although I found it on a plant of that kind; as its climbing stalks and tendrils were so intricately with branches of white-thorn, oak, and broom, as to preclude any accurate determination.

I kept them in a gauze cage for the space of a fortnight, and supplied them with fresh portions of the different plants every day, but could never observe them take the least subsistence during the whole time; they affixed their tails and hinder legs in the meshes of the gauze when I first removed them into the cage, and never shewed the least signs of life after; as they held firmly by the gauze, in the positions represented in our plate, I was very much disappointed to find on attempting to remove them, that two were dead; May 23d I observed that which was alive threw out a very delicate white thread, as if about to spin a cone; the body gradually shrivelled at the upper part, while the lower became proportionably thicker; two days after it fell to the bottom of the cage and became a pupa, at first of a whitish, and after of a fine green colour, marked at the narrow end with short black streaks. June 13th the Moth came forth.

At Fig. I. is shewn the head of the Caterpillar magnified; it is grey, with the jaws black, and is concealed beneath two horns or projections of the same green colour as the back.



THE
NATURAL HISTORY
OF
BRITISH INSECTS.

P L A T E CLXXXI.

PHALÆNA SYRINGARIA.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base. Wings in general deflexed when at rest. Fly by night.

GEOMETRA.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings angulated, indented, fine light grey, with shades of flesh colour and brown: a brown mark across the Wings, which in an expanded Insect forms a festoon.

PHALÆNA SYRINGARIA: pectinicornis, alis suberosis, omnibus griseo flavescens, strigis repandis fuscis albisque.
Fab. Syst. Ent. 622. 13.—*Spec. Inf.* 2. 244. 17.—
Linn. Syst. Nat. 2. 860. 206.

Phalæna pectinicornis, alis margine sinuatus, fulvo, nigro, fusco
 roseoque marmoratis, singulis subtus puncto nigro,
 superioribus extremo dilatato, recurvis. *Geoff. Inf.*
 2. 126. 32.

Roes. Inf. 1. *phal.* 3. *tab.* 10.

The English name has been given to this Moth by some collectors, on account of its being found a local species, and most frequent in Richmond park.

The Larva of this Insect has a very singular appearance, to which the hook on the back greatly contributes when it is nearly full fed and going into the pupa state. It feeds on the Jasmine and Lilac, and does not thrive well on any other plants. It is in the Caterpillar state in April, changes to chrysalis in May: the Fly comes forth in June.



P L A T E CCLXXV.

P H A L Æ N A A L N I A R I A.

G E N E R I C C H A R A C T E R.

Antennæ, taper from the base : wings in general deflected when at rest. Fly by night.

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S.

Antennæ pectinated : wings yellow, speckled with brown, marked with two transverse streaks and deeply scalloped.

P H A L Æ N A A L N I A R I A : pectinicornis alis erosis flavis fusco pulverulentis : frugis duabus fuscis. *Linn. Syst. Nat.* 2. 860. 205.—*Fn. Sv.* 1230. *Fab. Ent. Syst. T.* 3. p. 2. p. 136. *Sp.* 24. *Schæf. Icon. tab.* 135. fig. 1. 2.

This Insect is analogous to several other species of British Phalænæ, known amongst collectors by the indefinite term of *Thorn Moths*. It is remarkable only in the larva state, when, from its similarity in form and colour to a twig of the tree on which it feeds, it is supposed to escape the notice of its enemies. It is a dull creature, and will often remain in an oblique, or erect position, without motion, or appearance of life, for several hours together.

It is found on fruit-trees, in the state of larva, in May: the Moth appears in August or September.





PLATE CXCVI.

PHALÆNA WAUARIA.

GOOSEBERRY MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base: wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings grey: four black, irregular stripes on the interior part of the upper wings; one resembling letter L.

PHALÆNA WAUARIA: pectinicornis, alis cinereis, anticis fasciis quatuor nigris abbreviatis inequalibus. *Linn. Syst. Nat.* 2. 863. 219.—*Fn. Sv.* 1248.—*Fab. Spec. Inf.* 2. 249. 43.

Phlæna minor, alis amplis cinereo albicantibus 4 in exteriorum margine maculis linearibus e rufo nigricantibus. *Raj. Inf.* 179.

Merian Europ. I. tab. 25. fig. 151.

Frisch. Inf. 3. tab. 3. fig. 1.

Roef. Inf. 1. phal. 3. tab. 4.

Wilks Pap. 52. tab. 2. a. 2.

Ammiral. Inf. tab. 13. fig. 2. 3.

Except *Phalæna Grossulariata**, figured in the early part of this work, few species are more common than this, on the smaller kinds of fruit trees, but particularly the Gooseberry. Harris calls it the L Moth from the resemblance which one of the black marks on the anterior wing bear to that letter.

The young Caterpillars appear almost as early as the leaves, and change to chrysalis late in May; in this state they remain about twenty days before the Moth is produced.

• Currant Moth.

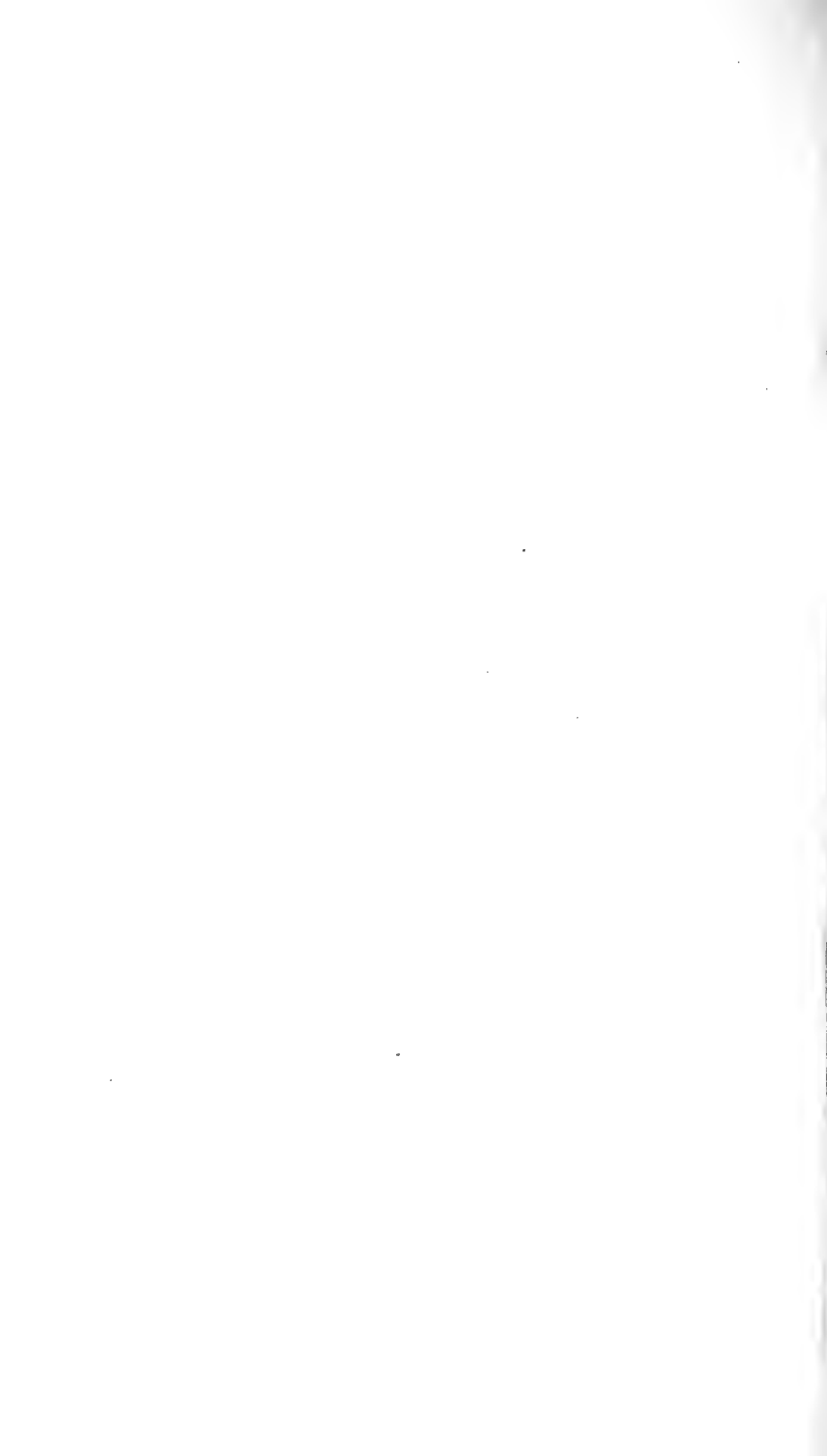






PLATE XXI.

PHALÆNA PRUNARIA.

ORANGE MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base : wings in general deflected when at rest. Fly by night.

* *Geometra*.

SPECIFIC CHARACTER

AND

SYNONYMS.

Antennæ pectinated : wings somewhat indented, yellow, powdered with fuscous, and a fuscous lunule in the middle of the anterior ones.

PHALÆNA PRUNARIA: pectinicornis subdentatis luteis fusco pulverulentis : anticis lunula fusca. *Linn. Syst. Nat.* 2. 861. 208. — *Fn. Suec.* 1232.
Fabr. Ent. Syst. T. 3. p. 2. 141. 43.
Wien Verz. 104. 17.
Schaeff Icon. tab. 17. fig. 2. 3.
Albin. Inf. 42. tab. 69.

Variable in colour from yellow to deep orange, and the spot in the middle of the anterior wings sometimes much larger than usual.

The

The larva is yellowish brown, with two spines on the anterior part and two behind. They feed on fruit-trees and on the thorn; the Chrysalis is commonly found enveloped in a web, and rolled up in a decayed leaf, in the month of June; and in July the Moth appears.



P L A T E CCXCIII.

F I G. I.

P H A L Æ N A U L M A T A.

SCARCE ELM MOTH.

G E N E R I C C H A R A C T E R.

Antennæ taper from the base. Wings in general deflexed when at rest. Fly by night.

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S.

Antennæ fetaceous. Wings white, with a double row of pale black spots across the middle: a ferruginous brown spot at the base, and another at the posterior margin of the first pair: a similar spot in the interior margin of the second pair also.

P H A L Æ N A U L M A T A: feticornis alis albidis: fasciis duabus ferrugineo fuscis; postica maculari. *Fab. Ent. Syst.* 3. p. 2. p. 176. *Sp.* 171.

Phalæna pantaria pectinicornis alis albis: fascia maculari flavicante, abdomine luteo nigro punctato. *Linn. Syst. Nat.* 2. 863. 218.

This species bears some affinity to the Phalena Grossulariata, or Currant Moth. It is very rare, and has been hitherto found only in Yorkshire. It appears the third week in June. The larva feeds on the elm: it is green, streaked with black, and has a black head; the pupa blueish.

F I G. II.

PHALÆNA MARGINATA.

SPECIFIC CHARACTER

AND

S Y N O N Y M S.

Antennæ fetaceous. Wings white, with a deep irregular brown margin of interrupted spots.

PHALÆNA MARGINATA: feticornis alis omnibus albis: margine exteriori limbo fusco interrupto. *Linn. Syst. Nat.* 2.

870. 257.—*Fn. Sv.* 1279.

Sulz. Inf. tab. 16. fig. 96.

Geoff. Inf. 2. 139. 60.

Clerk. Phal. tab. 2. fig. 5.

Phalæna *Geometra* Marginata* is rather common. It lives on the nut, and is found in the winged state in May.

* As the specific name *Marginata* occurs in the description of a Moth in Plate CL. it may be proper to observe, that the Insect there figured, is *Noctua Marginata* of Fabricius.—The sectional divisions of the Phalænæ must be particularly attended to, when the same specific name occurs more than once.

F I G. III.

PHALÆNA PRUNARIA, *Var.*

FEMALE ORANGE MOTH.

Male, Plate 23. Br. Inf.

The male of *Phalæna Prunaria* is represented and described in the early part of our British Insects; but it differs so considerably from the singular variety of the same species now before us, that we presume to introduce it in the annexed plate of *Geometra*.







P L A T E CCII.

FIG. II.

PHALÆNA DITARIA.

MAID OF HONOR MOTH*.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base: wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Antennæ feathered: wings green, with brown marginal spots.

PHALÆNA DITARIA: pectinicornis alis viridibus: maculis margina,
libus ferrugineis. *Fab. Ent. Syst.* 3. p. 2. 152. 32.

Phalæna bajularia: *Wien. Verz.* 97. 6.

This appears to be a local species. It has been found for many years past in the month of June, near the Oak of Honor, by Peckham. We have never heard that it has been taken in any other place in England.

* *Harris's Catal.* 31. 218.

Fabricius refers only to one author for this species. He says it feeds on the oak.

FIG. II.

PHALÆNA ALBICILLATA.

CLIFDEN BEAUTY.

LEPIDOPTERA.

PHALÆNA,

SPECIFIC CHARACTER

AND

SYNONYMS.

Antennæ fetaceous: wings whitish in the middle, with a broad margin of pale black; a large dark spot on the interior part of the upper wings.

PHALÆNA ALBICILLATA: feticornis alis omnibus nigricantibus: fascia lata alba immaculata. *Linn. Syst. Nat.* 2, 870. 255.—*Fn. Sv.* 1278.—*Fab. Ent. Syst.* 3. 182. 190. *Clerk. Icon. tab.* 1. fig. 12. *Knoch. Beytr.* 1. 40. 1. tab. 2. fig. 8.

The trivial appellation, *Clifden Beauty*, has been given to this Insect by some early English entomologists, who had not met with it in any other part of the country. It has since been taken in several other parts of the kingdom; but in Kent particularly. Clerk deemed it worthy of a place among his rarities; and it is still considered an exceeding scarce and fine species. Our specimen was taken in June, 1797, in Darent Wood, Dartford.

FIG.

FIG. III.

PHALÆNA PORCELLATA.

CLIFDEN BEAUTY LIKENESS.

LEPIDOPTERA.

PHALÆNA.

SPECIFIC CHARACTER

AND

SYNONYMS.

Antennæ fetaceous: anterior wings white, with three brown bands, a white spot on the exterior one: posterior white, with a brown margin.

PHALÆNA PORCELLATA: feticornis alis anticis albis: faciis tribus fuscus; media dimidiata, postica marginali: macula alba. *Fab. Ent Syst.* 3. 185. 201.

Phalæna Porcellata. *Wien. Verz.* 114. 1.

The simlarity of this to the foregoing species, induced us to figure both on the same Plate. Phalæna Porcellata is very common in summer. It appears in the winged state about the latter end of May. Linnæus has not described this Insect. Fabricius has given its specific character, above quoted. We suspect that it has not been figured by any author.



P L A T E CCXLVI.

F I G. I.

PHALÆNA PARTHENIAS.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base. Wings in general deflexed when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings deflexed. First pair with greyish waved bars across. Second pair orange-red, having a large triangular black spot at the interior edge.

PHALÆNA PARTHENIAS: *Linn. Syst. Nat.* 2. 835. 94. *Fn. Sv.* 1160.

BOMBYX VIDUA, alis deflexis fuscis: anticis cinereo subfasciatis, posticis macula bascos fasciaque rufis. *Fab. Ent. Syst. T.* 3. p. 1. 468, 190.

This species was described by Linnæus as *Phalæna Parthenias*; Fabricius alters it to *Vidua*. It is not figured by any author unless the *Ph. Geom. Glauco fasciata Gözii*, figured in *Kleman. T.* 1. tab. 40. fig. 4, 5, be the same insect,

Found

Found on the white Poplar. (Populi Alba.) It is a rare Insect and has been taken in Hornsey Wood in May.

F I G. II.

PHALÆNA DUBITATA.

TISSUE MOTH.

SPECIFIC CHARACTER.

Antennæ fetaceous, wings waved with brown grey and black. The nerves of the wings spotted with white.

PHALÆNA DUBITATA, feticornis alis obscuris fusco cinereoque undatis: nervis albo punctatis. *Fab. Ent. Syst. T. 3. p. 2. 168. 141.*

Phalæna dubitata. *Wien. Verz. 109. 3.*

The Tissue Moth is rarely met with near London. Our specimen was taken near Bath.





P L A T E CCXLVIII.

FIG. I. II.

PHALÆNA ATOMARIA.

DARK HEATH MOTH.

GENERIC CHARACTER.

Antennæ taper from the base. Wings in general deflexed when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Antennæ feathered. Wings entirely yellowish; with bands of brown, and the whole thickly sprinkled with atoms of the same colour.

PHALÆNA ATOMARIA: pectinicornis; alis omnibus lutescentibus fasciis atomisque fuscis. *Linn. Faun. Suec.* 1245 —
Syst. Nat. p. 862. n. 214.

Phalæna ifoselata. *Scop. carn.* 558. female.

Phalæna pennata. *Scop. carn.* 569. male.

The Dark Heath Moth is considered as the *Phalæna Atomaria* of Linnæus, in the *Faun. Suec.* and *Systema Naturæ*. Fabricius adopts the Linnæan character, though in the Synonyms it is confounded with another *Geometræ*, the *Hirtaria* of some entomologists. He refers to the *Phalæna ifoselata* and *Phalæna pennata* of Scopoli, which are evidently the two sexes of the Dark Heath Moth; but the Insect figured in Plate XXXIV. *Kleman's Inf.* is very distinct, and is the *P. Hirtaria* before alluded to. We cannot but observe how closely the

the Linnæan description will apply in this instance, to two Insects which at first sight appear so extremely different.

This species is very common on heaths in May. The male is much darker in colour than the female, and has curious pectinated and ciliated antennæ, as Scopoli observes. The female has been mistaken for a distinct species.

F I G. III.

PHALÆNA CLATHRATA.

PALE HEATH MOTH.

SPECIFIC CHARACTER

AND

SYNONYMS.

Antennæ setaceous. Wings entirely yellowish, with transverse and longitudinal dark lines intersecting each other.

PHALÆNA CLATHRATA: feticornis alis omnibus flavescentibus: lineis nigris decussatis. *Lyn. Syst. Nat.* 2. 867. 238.
—*Fn. Sv.* 1275.—*Fab. Ent. Syst.* 3. p. 2. p. 183.
194.

Schæff. Icon. tab. 216. fig. 2. 3.

Scop. Carn. 536.

Sulz. Hist. Inf. tab. 23. fig. 2.

This is a rare insect, except in Kent, where Dr. Latham informs us it is more common than the preceding species. Both sexes are very similar to the female Dark Heath Moth. The larva is unknown, but is supposed to feed on the *Erica*, being always found on these plants in the winged state. These insects have been called Heath Moths because they live in heaths, chalk-pits, and other barren places.—The Moths appear in June.



P L A T E CCLI.

FIG. I.

PHALÆNA SUBERARIA.

WAVED UMBER MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base: wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER.

Antennæ pectinated, yellowish: anterior wings with a fuscous ferruginous dash and a band of the same on the inferior pair: the whole upper surface streaked with numerous irregular transverse lines.

PHALÆNA SUBERARIA: pecticornis lutescens, alis superioribus litura, inferioribus fascia fusco ferrugineis, omnibus strigosis. *Marsham MS.*

The Waved UMBER Moth is found on the Oak in May. It is described only in the MS. of T. Marsham, Esq.

FIG. II.

PHALÆNA LACERTINARIA.

SPECIFIC CHARACTER.

AND

SYNONYMS.

Antennæ feathered : wings deeply indented, yellowish brown, with two dark lines across the anterior pair and a light spot in the middle : posterior wings immaculate.

PHALÆNA LACERTINARIA, pectinicornis alis erosis lutescentibus : frugis duabus punctoque medio fuscis, posticis immaculatis. *Lin. Syst. Nat.* 2. 860. 204.

Fab. Ent. Syst. T. 3. p. 2. 135.

Schæf. Icon. tab. 66. fig. 2. 3.

Degeer. Inf. 1. tab. 10. fig. 7. 8.

Reaum. Inf. 2. tab. 22. fig. 4—6.

Found on the Oak in May and June.

F I G . I I I .

P H A L Æ N A M A C U L A T A .

S P E C I F I C C H A R A C T E R .

Antennæ fetaceous: wings yellow spotted with black.

P H A L Æ N A M A C U L A T A : feticornis alis flavis nigro maculatis.

Fab. Ent. Syst. T. 3. p. 2. 197. 244.

Phalæna Macularia. *Lynn. Syst. Nat. 2. 862. 213.*

Extremely common about the hedges in the vicinity of London during the months of June and July.



4



1



2



3

P L A T E CXXIX.

FIG. I, II, III.

PHALÆNA HASTATA.

ARGENT AND SABLE MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base. Wings in general contracted when at rest. Fly by night.

* * G E O M E T R Æ.

SPECIFIC CHARACTER

AND

SYNONYMS.

White, beautifully marked and spotted with black.

PHALÆNA HASTATA: feticornis, alis omnibus nigris albo maculatis, fasciis duabus albis nigro punctatis hastata dentatis. *Linn. Syst. Nat.* 2. 870. 254. *Fn. Sv.* 1276.

Phalæna antennis filiformibus; alis latis albis fasciis undulatis maculisque hastatis nigris. *Degeer. Inf. Vers. Germ.* 2. 1. 334. 7. *tab.* 8. *fig.* 20. *Clerk. phal. tab.* 1. *fig.* 9. *Kleman Inf.* 1. *tab.* 44.

The Argent and Sable Moth is scarce in the Fly state: though its young caterpillars are not uncommon in some parts of Kent; we have

have met with several about the narrow lanes in Darent-wood, Dartford, in April, or early in the month of May. It is however very difficult to breed them; they generally die in the pupa state, or before they cast their last skin when caterpillars; from several specimens taken during the three last summers, we have only had one Moth produced, and that so crippled, as merely to enable us to ascertain the species.

The small Caterpillars are of a dark purplish colour, when nearly full fed they have a yellow under side marked with black, with the back purple; before they change to the pupa state, they become almost brown.

They remain only a month in the pupa state. The Moth appears about the middle of June.—Food, white-thorn and alder.

PHALÆNA ANASTOMOSIS.

FIG. IV.

Since the publication of the last Number, we have been favoured with a most beautiful specimen of the Moth figured in the 124th Plate of this Work, and present a figure of it to our subscribers, together with the several changes of the *Phalæna Hastata*; it will shew how very liable this Insect is to variation in its colours, size, &c.

We find also that though this Insect has been named *Phalæna Anastomosis* in the most scientific Cabinets in London, and always received as such by the best authority, it is not the Insect referred to by Fabricius in his *Species Insectorum* under that title; that Author, as well as Linnæus, refers under the specific name *Ph. Curtula* to the 43d Plate of the third Volume of Roefel's Insects; in this Plate is figured a Moth which is certainly a species distinct from our Insect, and is well known by its Linnæan name *Curtula*, or English title *Chocolate Tip*; yet Fabricius gives an additional reference for the same species to the 11th Plate of Roefel's fourth

fourth Volume of Insects, and in this we find the figure of a Moth whose markings and general appearance correspond with our specimen, though its colours are totally different, being a very pale grey with scarcely any dark colour near the apex of the wings; the larva much more resembles our figure, and induces us to conclude, that though the figure of this last Moth is so extremely different, it is probably intended for the same species as our Insect; and therefore that the two distinct species have been confounded together, by a false quotation of Linnæus's Amanuensis.

And we are partly confirmed in this supposition by the words of Linnæus himself; he says, *Ph. Anastomosis* is very like *Ph. Curtula*, but the Moth figured in Roefel's plate, and referred to in the Synonyms under *Anastomosis*, does not bear the least resemblance to it;—our Insect on the contrary, though evidently a distinct species, is not unlike it.



P L A T E CCCXLII.

FIG. I.

PHALÆNA LICHENARIA.

GENERIC CHARACTER.

Antennæ taper from the base: wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Antennæ feathered: wings variegated with green and grey, and marked across with two black lines, the anterior one recurved, the posterior waved and bent in the opposite direction.

PHALÆNA LICHENARIA: pectinicornis alis viridi cinereoque variis: strigis duabus nigris; anteriore recurva, posteriore undato flexuosa. *Fab. Ent. Syst. T. 3. p. 2. p. 145. sp. 59.*

The two sexes of this Insect is figured in the annexed plate, *fig. 1. 1.*—The pectinated antennæ denote the male.

FIG. II.

PHALÆNA SPARTIATA.

BROOM MOTH.

SPECIFIC CHARACTER

AND

SYNONYMS.

Antennæ fetaceous: first wings deep grey with large oblong brown spots, encircled with white: second wings cinereous.

PHALÆNA SPARTIATA: feticornis alis oblongis fuscis: vitta albida, posticis cinereis. *Fab. Ent. Syst. T. 3. p. 2. p. 181. sp. 188.*

Phalæna Spartiata. *Fuef. Arch. 2. tab. 5.*

Feeds on the broom, and is found in the winged state in June and July —It is scarce, or at least very local.



FIG. III.

PHALÆNA UNDULATA.

SCALLOP-SHELL MOTH.

SPECIFIC CHARACTER

AND

SYNONYMS.

Antennæ fetaceous: wings pale, and uniformly streaked transversely with numerous scalloped lines of brown.

PHALÆNA UNDULATA: feticornis alis omnibus strigis confertissimis undulatis fuscis. *Linn. Syst. Nat.* 2. 867. 239.—*Fn. Sv.* 272.

Clerk. Inf. tab. 6. *fig.* 3.

Harr. Inf. tab. 2. *fig.* 5. 6.

Sometimes taken in Kent, particularly in Darent Wood, near Dartford. It feeds on the Willow and Oak, and appears in the winged state in June.

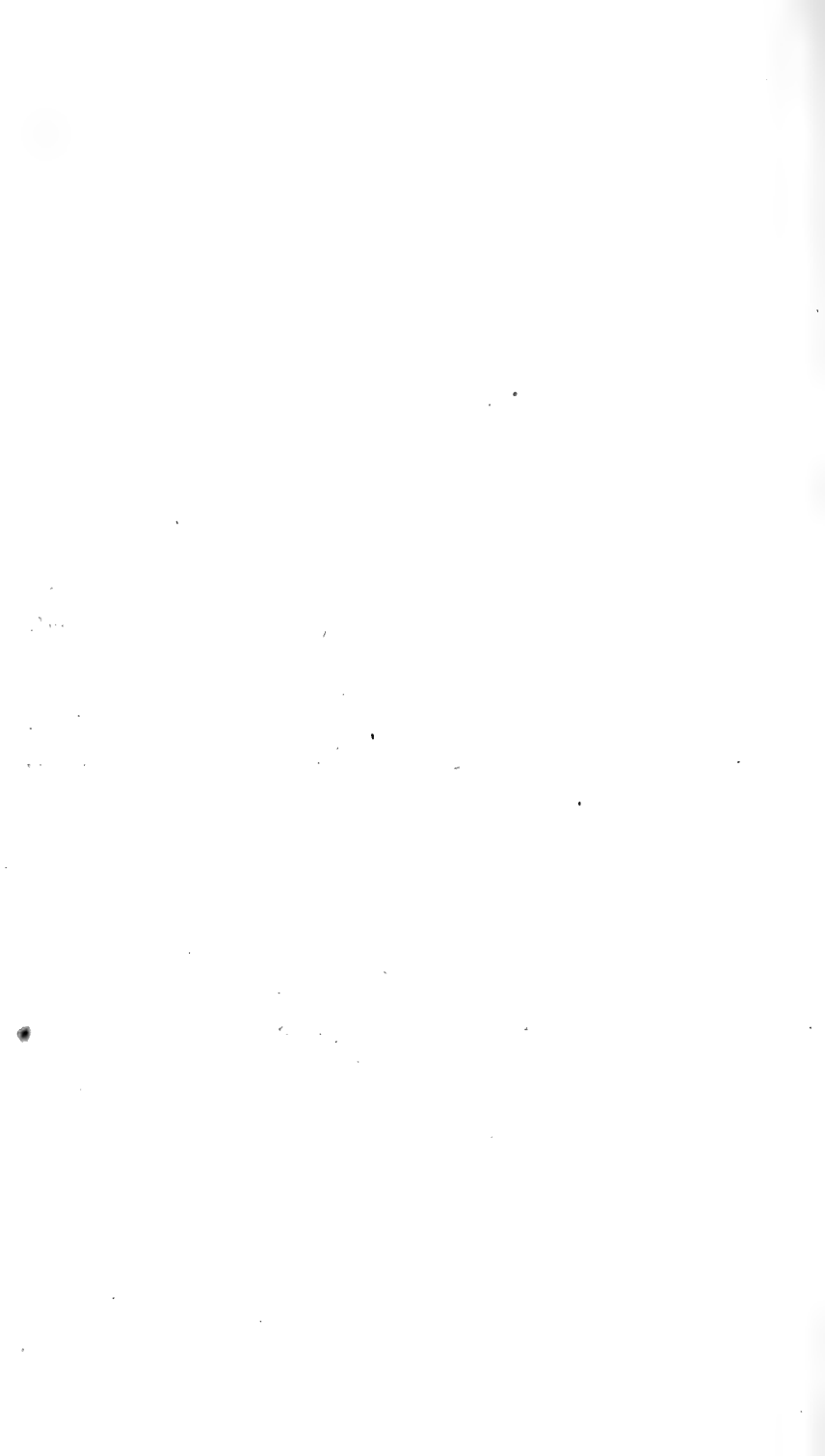






PLATE CCCXLIX.

FIG. I.

PHALÆNA DOLABRARIA.

SCORCHED WING MOTH.

GENERIC CHARACTER.

Antennæ taper from the base. Wings in general deflexed when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings yellow, with numerous ferruginous transverse streaks. Anal angle violet.

PHALÆNA DOLABRARIA: alis flavis: strigis ferrugineis anguloque ani violaceo. *Linn. Syst. Nat. T. 1. p. 4. p. 2451. Fab. Sp. Inf. 2. p. 245. n. 21. Sp. 207.*

F I G. II.

P H A L Æ N A U R T I C A T A.

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S.

Antennæ like a bristle. Wings white, with bands of brown spots. Thorax and tail yellow.

P H A L Æ N A U R T I C A : feticornis alis albis fusco fasciato-maculatis, thorace anoque flavis. *Linn. Syst. Nat.* 2. 873. 272.

Fab. Ent. Syst. T. 3. p. 2. p. 209. sp. 299.

Roef. Inf. 1. phal. 4. tab. 14.

Degeer. Inf. 1. tab. 28. fig. 18. 19.

Geoffr. Inf. 2. 135.

The larva conceals itself in a kind of cylinder, which it forms by rolling up the edges of the nettle leaves on which it feeds. It is whitish, with a dark dorsal line, head black, and two spots of the same colour on the segment next the head.

FIG. III.

PHALÆNA LYNCEATA.

SPECIFIC CHARACTER.

Wings white, with two brown transverse bands, and a brown spot near the apex.

PHALÆNA LYNCEATA : alis albis : fasciis duabus punctoque apicis fuscis. *Fab. spec. Inf. 2. p. 262. n. 129. Gmel. Linn. Syst. 2478.*

This Insect, though very common in our woods, was unknown to Fabricius before his visit to Great Britain; he first described it in the species Insectorum, under the specific name of Lynceata, as an English Insect: it has since appeared in his other publications, and has been inserted by Gmelin in the last Edition of the Systema Naturæ.

The Linnean description of *P. ocellata* coincides so nearly with this Insect, that we may doubt the propriety of separating them; they are probably varieties only of the same Species.

It is very common in June.









PLATE CCXXXIII.

PHALÆNA PRUNARIA.

PHŒNIX MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base : wings in general deflected when at rest. Fly in the night.

Geometra.

SPECIFIC CHARACTER

AND

SYNONYMS.

Antennæ fetaceous : anterior wings varied brown and grey, with two broad pale waved bands, the posterior one nearly terminal.

PHALÆNA PRUNARIA : feticornis alis griseo fuscis : fasciis duabus pallidis repandis : postica femiterminali, *Linn. Syst. Nat.* 2. 869. 250.—*Fn. Sv.* 1267.—*Fab. Ent. Syst.* 3. p. 2. p. 178. 175.
Wien. Verz. 115. 19.
Clerk. Phal. tab. 7. fig. 3.
Ammiral. Inf. tab. 23. fig. 1. 4.

Fabricius describes the larva of this rare Moth :—It is ash-coloured, with a black collar or mark on the neck : feet reddish brown, and the black spotted with the same colour.

The

The trivial English name, Phœnix Moth, has been given to this Insect from a circumstance little known, and scarcely deserving notice, except as it proves the impropriety of naming Insects from local circumstances, when any other can be well applied. A small part of a wood near London had been cut down, and a quantity of charcoal made on the spot. This place had been often visited by Aurelians, but the *Phælæna Prunaria* had never been discovered there, nor indeed was then known as a British Insect. On the following year, when the ground was cleared, and the underwood grown up, this Moth was found; it continued to be taken constantly in the months of June and July for many years, in this place, and then totally disappeared. The late Mr. Bentley, known as a collector of English Insects, discovered a breeding-place of this Moth on Epping Forest, and commonly found three or four specimens every season. We are now certain that it occurs, in abundance in various other parts of the kingdom. It feeds on the thorn, plumb, and currant.

FIG. II. II.

PHALÆNA DUPLICATA.

SPECIFIC CHARACTER

AND

SYNONYMS.

First wings grey, with three transverse fuscous waved lines.

PHALÆNA DUPLICATA: feticornis, alis griseis, fasciis duabus trilineatis fuscis. *Fab. Ent. Syst.* 3. p. 2. p. 193. 234.

PHALÆNA PLAGIATA: feticornis, alis anticis canis: fasciis tribus trilineatis nigricantibus repandis. *Linn. Syst. Nat.*—*Fn. Sv.* p. 334. n. 1271.

Phal.



Phal. Plagiata. Das doppelte Band. *Berlin. Mag.* 4. B. p. 522.
n. 38.

Schæff. Icon. tab. 12. fig. 1. 2.

Clerk. Icon. tab. 6. fig. 1.

Roffi Faun. Etr. T. 2. p. 194. n. 1170.

Found in June. It is rare, and we believe has not been met with in the larva state in this country. Continental authors say the larva is brown, variegated with red, and has a yellow line on each side. *Kleemann* has not figured the larva with the Moth in his Supplement of the rare Insects found in Germany.

FIG. III.

PHALÆNA VESPERTARIA.

SPECIFIC CHARACTER

AND

SYNONYMS.

Antennæ feathered: wings yellowish: two dark waved streaks on the first pair; one on the second pair: the space between the streaks and margins of the wings, dark.

PHALÆNA VESPERTARIA pectinicornis alis flavescentibus: strigis duabus; posteriore limbum obscurum determinante.

Linn. Syst. Nat. 2. 864. 224.

Fab. Ent. Syst. 3. p. 2. 149. 74.

Phalæna parallelaria. *Wien. Verz.* 104. 15.

Found in Hornsey-Wood in July, and also in Norwood.

FIG.

FIG. IV.

PHALÆNA CHÆROPHYLLATA.

GREAT CHIMNEY-SWEEPER.

SPECIFIC CHARACTER

AND

SYNONYMS.

Antennæ fetaceous: wings black erect: first pair white at the tips.

PHALÆNA CHÆROPHYLLATA feticornis atra alis erectis: anticis apice albis. *Linn. Syst. Nat.* 866. 287.—*Fab. Ent. Syst. I. 3. p. 2.* 184. 200.
Wien. Verz. 116. 1.

Appears in the winged state late in July. Is produced from a green caterpillar, which feeds on *Cherophyllum Silvestre*, or wild cicely.





PLATE CCCLXXXVI.

FIG. I. II.

PHALÆNA FLAVO-STRIGATA.

ORANGE-BANDED CARPET.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ gradually tapering from the base : wings in general deflected when at rest. Fly by night.

* *Geometra*.

SPECIFIC CHARACTER.

PHALÆNA FLAVO-STRIGATA. Wings pale, with deep yellowish clouded transverse bands, and an obscure central dot on the anterior ones.

The natural size of this insect is shewn at Fig. I. It is an elegant insect, and rather uncommon.

FIG. III.

PHALÆNA FUSCO-UNDATA.

TESTACEOUS DARK-WAVED CARPET.

SPECIFIC CHARACTER.

PHALÆNA FUSCO-UNDATA. Anterior wings subtestaceous, with irregular fuscous waved bands, and a few fuscous dots.

Nearly allied to the insects known among English Aurelians by the name of the July high flyer, in its general appearance and markings, but different in colour, and is in particular destitute of the small white spot on the band at the posterior apex of the first pair of wings. This insect is from Faversham.

FIG. IV.

PHALÆNA BOMBYCATA.

CHEVRON MOTH.

SPECIFIC CHARACTER.

PHALÆNA BOMBYCATA. Anterior wings pale and fuscous, variegated with yellowish: a broad transverse band of testaceous lines, with a central dark chevron-like mark in the middle.

Found in the month of May, principally on the broom.

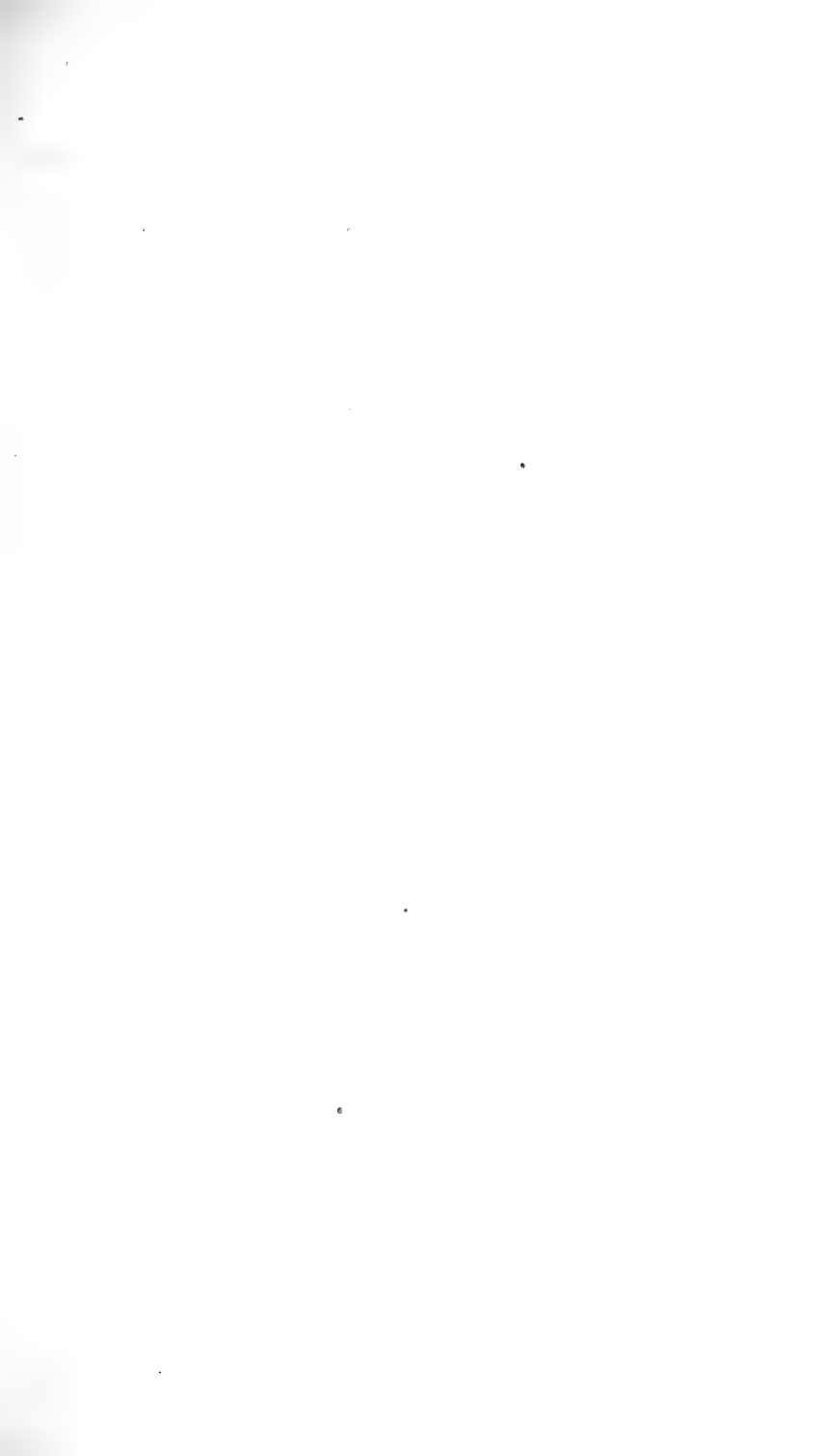




PLATE CCCCXLVII.

PHALÆNA URSULARIA.

THICK-HAIRED MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ tapering from the base : wings in general deflected when at rest. Fly by night.

GEOMETRA.

SPECIFIC CHARACTER.

PHALÆNA URSULARIA. Thorax thickly clothed with hair : anterior wings pale brown, with undulated fuscous waves and dots : posterior pair whitish.

This moth possesses every character of a genuine *Bombyx*, and might be without scruple referred to that section, but for the authority of Mr. Drury who was so fortunate as to rear it from the caterpillar ; and which being of the looper kind decidedly proves it to be of the *Geometra* instead of *Bombyx* family.

The antennæ in this insect as in the *Bombyces* is much pectinated, the thorax thick, and the body large and bulky. From its general habit it appertains therefore to the full bodied tribe of *Geometræ*, at the head of which we may rank the species *Hirtaria*. This last mentioned insect is so clearly of the *Bombyx* family from its general appearance,

ance, that if its larva had not been distinctly ascertained to be one of the loopers, we should have still considered it of the Bombyx kind. Our present insect bears some resemblance also to the species *Hirtaria* but is smaller.

Mr. Drury bred the two sexes of this extremely rare insect many years ago. These specimens are still preserved in the cabinet formed by that eminent collector, and are the only examples of the kind we have ever seen; neither is the species, which we believe to be perfectly new, in the possession of any other collector within our knowledge.

Both sexes are represented in the annexed plate.



PLATE CCCCLVI.

PHALÆNA COMMUNIFASCIATA.

SINGLE STREAK MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base : wings in general deflected when at rest. Fly by night.

GEOMETRA.

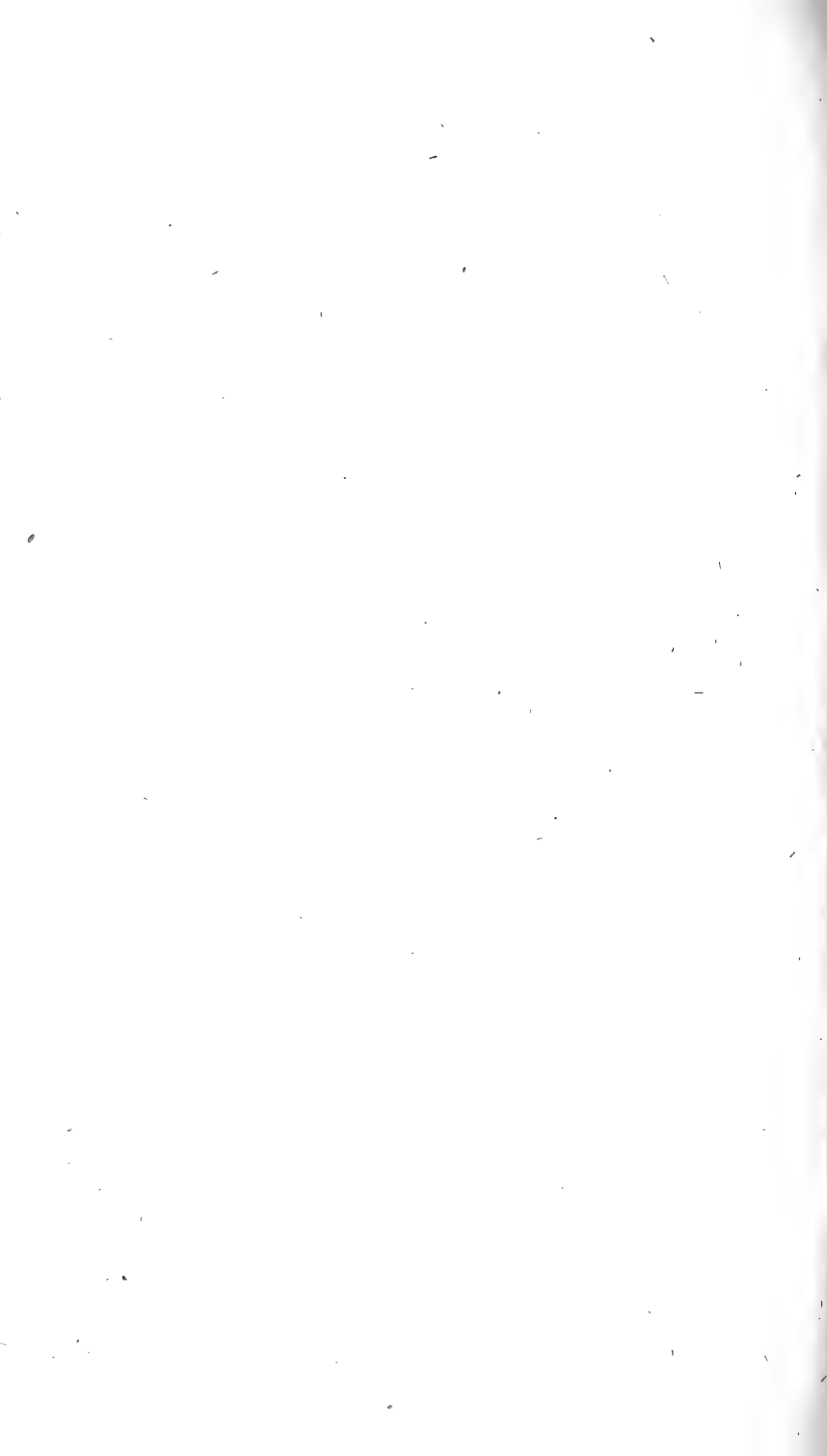
SPECIFIC CHARACTER.

PHALÆNA UNIFASCIATA. Cinereous-buff with a single common fuscous streak in the middle.



An insect met with many years ago by Mr. Drury. The upper wings are pale cinereous buff colour, the lower ones of the same tint but rather paler, and both are marked with a common fuscous streak extending entirely across the middle. A single row of dots form a line along the outer margin of all the wings, and another series though much fainter traverse the upper wings midway between the common band, and the outer margin. It is extremely rare, if not unique.

The figure represents this curious insect in its natural size.



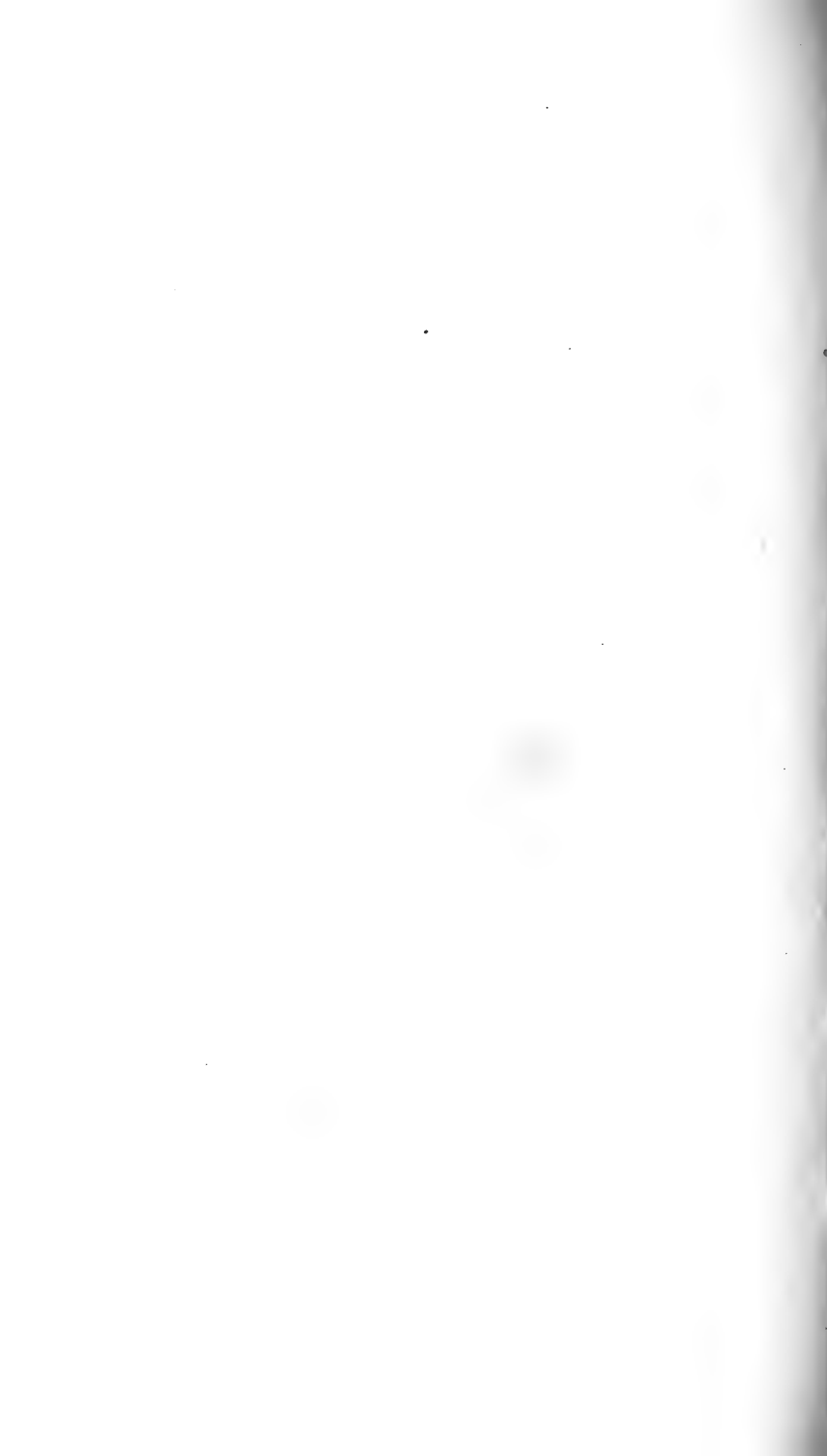






PLATE CCCCLXI.

FIG. I.

PHALÆNA MEDIOPUNCTARIA.

MIDDLE-DOT MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base : wings deflected when at rest. Fly by night.

Geometra.

SPECIFIC CHARACTER.

PHALÆNA MEDIOPUNCTARIA. Wings pale ; anterior pair with two transverse waved lines and central dot of fuscous : posterior pair with a single waved fuscous line.

A pair of this singular and decidedly marked Phalæna occurs in the collection of Mr. Drury, and these are the only examples of the species we have seen in any cabinet. It appears to be entirely of a new kind.

FIG. II.

PHALÆNA TRISTRIGARIA.

THREE-STREAK MOTH.

SPECIFIC CHARACTER.

PHALÆNA TRISTRIGARIA. Anterior wings greyish, with three small black streaks at the tip, and a subtestaceous band across the middle: posterior wings immaculate.

This is an interesting species of that particular kind of moths called the Carpets. The general colour is faint reddish grey with a single irregular broad band of a somewhat testaceous hue across the middle of the anterior wings, and the space at the base of the wing is of the same colour rather paler. Towards the apex are three short black streaks, and a small triangular spot which seems to constitute one of the most essential characteristics of this species. The lower wings are pale brown, and immaculate.

We believe this Phalæna is not described by any author.

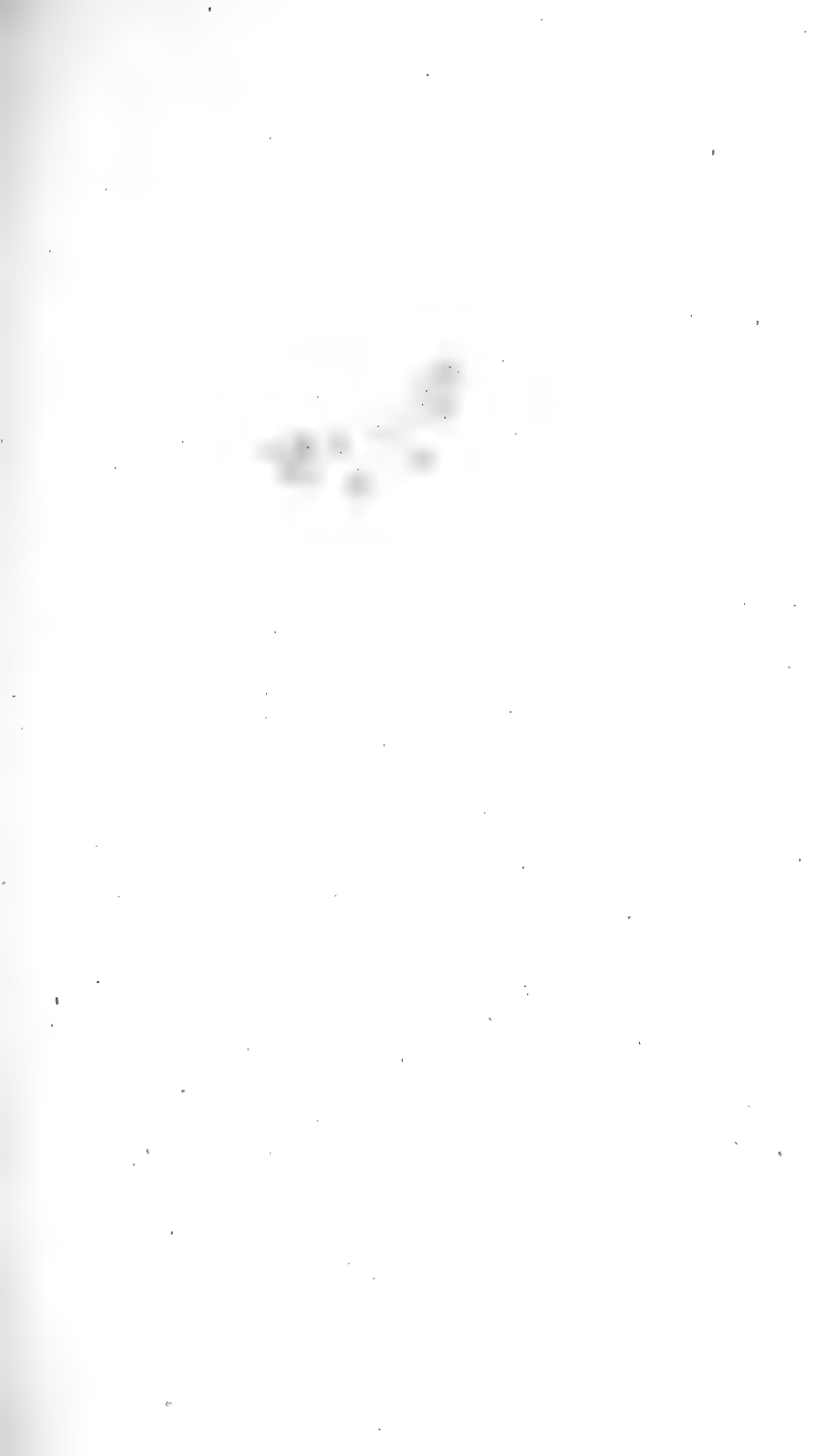




PLATE CCCCLXIII.

PHALÆNA QUADRIPUSTULATA.

FOUR SPOT HEATH MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

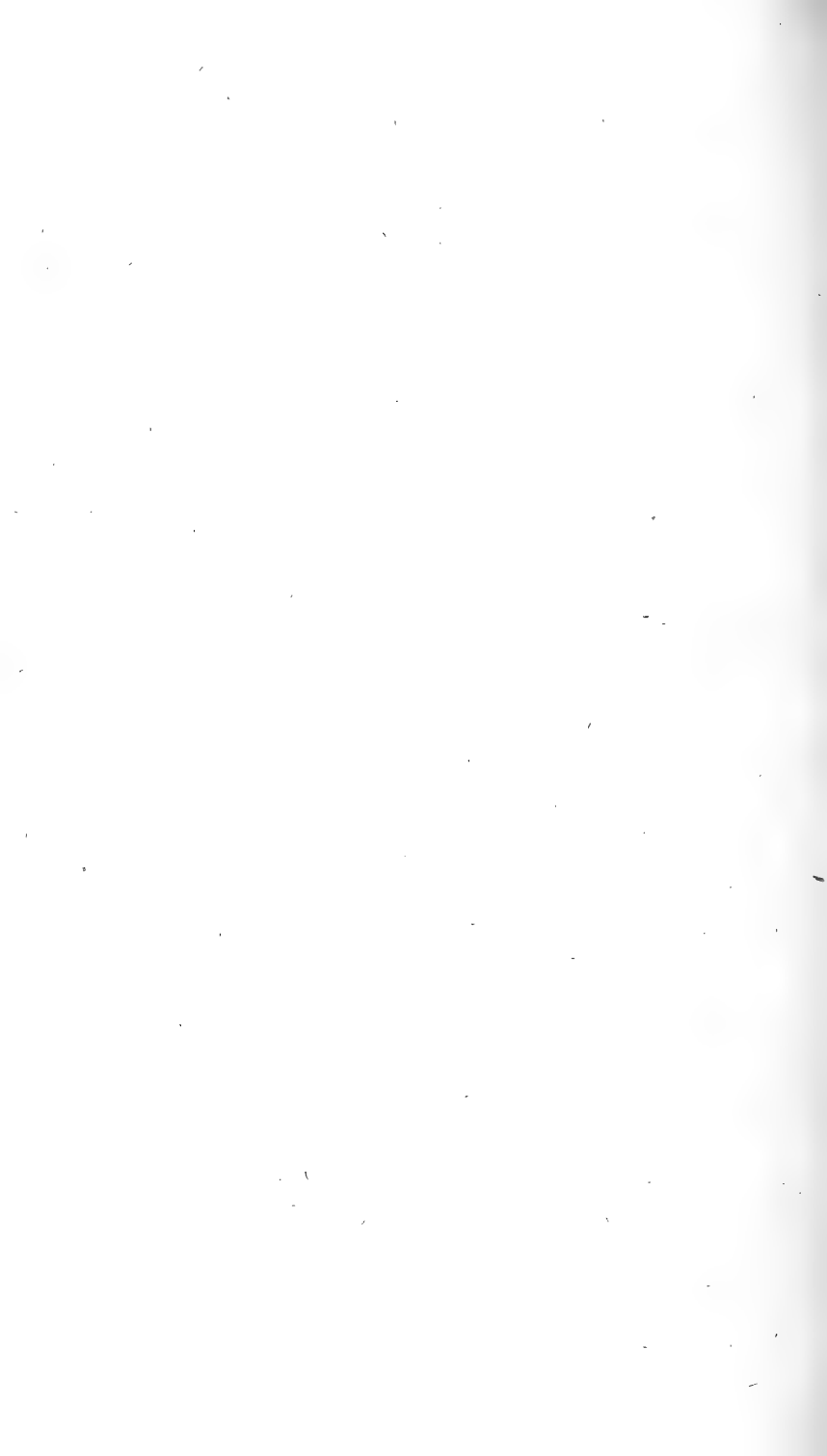
Antennæ taper from the base : wings in general deflected when at rest : fly by night.

SPECIFIC CHARACTER.

PHALÆNA QUADRIPUSTULATA. Wings scalloped, greyish glossed with purple, and speckled: a small whitish spot in the middle of each wing, and a common irregular line of dots behind.

An elegant and very rare species of the Geometra family with fetaceous antennæ. This we discovered some years ago upon a sandy plain close to the Severn sea in the county of Glamorganshire, between Newton and Kenfig.

This Insect was taken in the winged state the last week in July, and was observed to fly in the open day, just skimming the surface of the scanty herbage on the sands. Its flight was amazingly rapid.





P L A T E X L.

P H A L Æ N A R O S E A.

R E D A R C H E S.

L É P I D O P T E R A.

G E N E R I C C H A R A C T E R.

Antennæ taper from the base. Wings in general contracted when at rest. Fly by night.

S P E C I F I C C H A R A C T E R.

Rose colour. On the superior Wings a dark, waved, or arched line, and a row of spots near the margin.

The Caterpillar of this *Phalæna* feeds on the Oak. Our specimen was taken from an oak at Norwood, July 15. They are not very common, although found, during the month of July, in several parts near London.

F I G I.

T H E L A R V A

O F T H E

C O C C I N E L L A 7 — P U N C T A T A.

In Plate XXXIX we have represented several species of the *Coccinella* in their perfect or adult state. Our present figure is the larva of the 7 *Punctata*, Fig. V. It is a very common Insect; and will feed on almost every kind of vegetable food.

P H A L Æ N A P R A S I N A N A ?

SCARCE SILVER LINE.

LEPIDOPTERA.

Phalæna.

S P E C I F I C C H A R A C T E R .

Body and under Wings white, first Wings green, with two oblique arrow lines of pale yellow.

We possess two species of the Green Silver Line; one *Phalæna Prasinana*, of Linnæus; the second unknown to that author; but since described in the *Species Insectorum* of Fabricius. Those two species nearly resemble each other, are both taken from the Oak, and are distinguished only in some few particulars, the *Scarce Silver Line* has its Superior Wings of a plain pea-green, with two stripes of feint yellow, the Body and inferior Wings are of an immaculate white. But the Common Silver Line is more variegated in its colour, having a dash of a paler hue between each Silver Line, and an orange or crimson border. The Scarce Silver Line is taken in July, in woods.

Note, Fabricius appears to have changed the name of this Insect in his *Spec Inf.* for in the *System Entom.* he calls the common Silver Line *Prasinana*, the same as Linnæus does, which in the *Spec* he has altered to *Fagana*.



P L A T E C C C X .

P H A L Æ N A V E R N A R I A .

GREEN HOUSE-WIFE MOTH.

G E N E R I C C H A R A C T E R .

Antennæ taper from the base: wings in general deflected when at rest. Fly by night.

S P E C I F I C C H A R A C T E R .

Antennæ feathered, with fetaceous tips: wings angulated, green with two white streaks, and margin spotted with brown and white.

P H A L Æ N A V E R N A R I A : p e c t i n i c o r n i s a l i s a n g u l a t i s v i r e s c e n t i b u s :
 f r i g i s d u a b u s a l b i s r e p a n d i s , a n t e n n i s a p i c e f e t a c e i s .
Linn. Syst. Nat. 2. 858. 195.—*Fn. Sv.* 1227.
Fab. Ent. Syst. T. 3. p. 2. p. 129. 169. *fp.* 3.

A very common and pretty little species of the *Geometra* tribe: it is found on the jasmine and honeysuckle.



PLATE DX.

FIG. I.

PHALÆNA OMICRONATA.

O-O CARPET MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ gradually tapering from the base : tongue spiral : wings in general deflected when at rest. Fly by night.

* *Geometra*.

SPECIFIC CHARACTER.

PHALÆNA OMICRONATA. First wings fulvous at the base and tip, with fuscous streaks and dots : in the middle a broad indented cinereous band with a double O nearer the anterior margin.

An elegant and not very frequent species found in the vicinity of woods in the month of June, July and August.

F I G. I I.

P H A L Æ N A C O N T R I S T A T A.

C O M M O N C A R P E T M O T H.

S P E C I F I C C H A R A C T E R.

P H A L Æ N A C O N T R I S T A T A. White with a common fuscous border :
anterior wings brownish at the base, the middle
with a fuscous band : disk of the posterior pair
with dusky streaks.

P H A L Æ N A C O N T R I S T A T A. *Marfh. M. S.*



Common in the months of May and June in moist woody
situations. It is very abundant, in particular near London.



P L A T E D X V I I .

P H A L Æ N A I N S C R I P T A T A .

LETTERED MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base : tongue spiral : wings in general deflected when at rest. Fly by night.

*** *Geometra.*

SPECIFIC CHARACTER.

P H A L Æ N A I N S C R I P T A T A . Pale, anterior wings banded and lineated : with two dusky characters, and a whitish Λ in the disk of the middle band : posterior wings with scalloped lines.

The two moths represented in this plate, are beyond dispute, varieties of the same species, that delineated in the upper part of the plate differing only in having the anterior wings and bands darker than the other : the characters on both are the same, being two small dusky letter-like marks, one of which remotely resembles the hebrew *kametz* (*) and a little behind these is a pale or whitish greek Λ

(lambda.) The whole of these marks are disposed near the center of the broad pale band that passes across the middle of the anterior wings, and these constitute the principal character of the species. In the darkest coloured specimen of this insect, there is a small and pretty distinct dot in the middle of the posterior wings.

This is a very rare and apparently undescribed species of the *Geometra* tribe.







PLATE CCCCLXXIX.

FIG. I.

PHALÆNA PECTINATARIA.

GREEN CARPET MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ gradually tapering from the base ; wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER.

PHALÆNA PECTINATARIA. Anterior wings greenish, with base, and two denticulated bands darker : two fuscous V-like marks on the costal margin, and fuscous spot near the tip : posterior wings with a band of dots below the middle.

PHALÆNA PECTINATARIA. *Marsh. M.S.*

One of the most frequent of the moth tribe, distinguished by the name of " Carpets."

FIG. II.

PHALÆNA RUPTATA.

BROKEN BAR, OR HORNSEY CARPET MOTH.

SPECIFIC CHARACTER.

PHALÆNA RUPTATA. Anterior wings subtestaceous: base, interrupted broad band in the middle, and spot at the tip fuscous, jagged, and margined with white: posterior wings pale, with central dot.

GEOMETRA RUPTATA. *Hüb. Schmet. Geom.* 57. 295.—*Sepp.* p. 11. pl. 14?



An elegant and by no means abundant species, found in the woods during the month of June. This insect appears to be rather local, and from being usually taken by collectors in the woods of Hornsey, has long since obtained among them the trivial appellation of the Hornsey Carpet Moth.

FIG. III.

PHALÆNA MIATA.

AUTUMN GREEN CARPET.

SPECIFIC CHARACTER.

PHALÆNA MIATA. Wings grey-green, with three greenish bands; the middle one waved with brown: posterior wings pale, with faint scalloped bands, and central dot.

PHALÆNA MIATA: alis griseis: fasciis tribus viridibus: inter media latiore fusco undata. *Linn. Syst. Nat.* 2. 869. 249.—*Clerk. Icon. pl.* 8. fig. 2.

PHALÆNA MIATA. *Fab. Ent. Syst.* 3. 180. 183.

Appears in the winged state late in Autumn, whence it has obtained the name of Autumn Green Carpet. The species varies in point of colouring as well as size, and also seems to be very local, if not rare. Among the collectors near London, it is rather better known by the title of Dartford Green Carpet, (from being met with chiefly in the woods adjacent to the town of Dartford, in Kent) than by that of Autumn Green Carpet.



PLATE CCCCLXXXV.

FIG. I. II.

PHALÆNA LINEATARIA.

PALE TRIPLE-BAR MOTH.

GENERIC CHARACTER.

Antennæ gradually tapering from the base to the tip : tongue spiral : wings in general deflected when at rest. Fly at night.

* GEOMETRA.

SPECIFIC CHARACTER.

PHALÆNA LINEATARIA. Pale : anterior wings with an oblique bilineated band at the base : trilineated band near the tip : bar in the middle angulated, and inclosing a dot near the costal margin : posterior pair sublineated : exterior margin of all the wings dotted.

This we are inclined to consider as an extremely rare species. The specimen represented in the upper part of the plate, and to which the figure I. is annexed, will be observed, at the first view, to differ from that shewn beneath at figure II. in the distinctness of its markings; but this alone seems to constitute their real difference, as every lineation in the lower specimen accords with those exhibited in the insect shewn above. The latter appears to be either a pale variety, or an example of the species in less perfect condition than the other. Both insects are shewn in their natural size.

FIG.

FIG. III.

PHALÆNA RUBRO-VIRIDATA.

BULLSTRODE GREEN CARPET MOTH.

SPECIFIC CHARACTER.

PHALÆNA RUBRO-VIRIDATA. Anterior wings greenish, tinged
with rufous: base and broad band in the middle
subfuscous: posterior wings brownish.

PHALÆNA RUBRO-VIRIDATA. *Marsh. M. S.*

PHALÆNA PSITTACATA. *Fabr. Ent. Syst.* 3. 195. 238 ?

Occurs in the winged state in the month of October.

We are not without suspicion, that the moth represented in that scarce work, the "*Icones*" of Clerk, (fig. 8. pl. 4.) may be intended for an insect of this species. The figure appears without any name.



PLATE CCCCLXXXVII.

FIG. I. I.

PHALÆNA TESTACEATA.

PALE SCALLOP MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ gradually tapering from the base to the tip : tongue spiral : wings in general deflected when at rest. Fly at night.

* GEOMETRA.

SPECIFIC CHARACTER.

PHALÆNA TESTACEATA. Whitish, with numerous testaceous scalloped lines : a common broad pale band in the middle ; and marginal series of oblong black dots.



The insect from whence the above description and annexed figures are taken, is the only example of its species we have seen, and hence we are inclined to consider it exceedingly scarce, if not perfectly unique. The smaller figure exemplifies the natural size.

FIG. II.

PHALÆNA CUNEATA.

CUNEATE MOTH.

SPECIFIC CHARACTER.

PHALÆNA CUNEATA. Anterior wings fuscous, with two pale broad bands, the inner one angulated, and the exterior marked in the middle with a single series of cuneate fuscous spots.

A species of very striking appearance, and sufficiently distinguished by the series of wedge-formed spots disposed along the pale exterior band of the upper wings. The fuscous ground colour forms a pretty broad and distinct band in the middle of the wings, and is further characterized by an oblong, and somewhat paler spot, contiguous to the anterior margin, as well as a geminous or rather bipupillate spot at the posterior edge of the same band. The lower wings are whitish, with pale fuscous scalloped marginal lines, and a dusky dot in the middle.



PLATE CCCCXCIII.

FIG. I.

PHALÆNA BERBERATA.

BARBERRY MOTH.

LEPIDOTERA.

GENERIC CHARACTER.

Antennæ gradually tapering from the base : wings in general deflected when at rest. Fly by night.

* GEOMETRA.

SPECIFIC CHARACTER

AND

SYNONYMS.

Anterior wings cinereous and subrufous, with three brown lineate bands, the posterior one inclosing a pale ϵ .

PHALÆNA BERBERATA : feticornis alis anticis cinereis : fasciis tribus fascis : posteriori nigro undata. *Fabr. Mant. Inf. T. 2. p. 203. n. 154.*—*Ent. Syst. T. 3. p. 2. 182. 189.*

GEOMETRA BERBERATA. Der Gauerdorn Spanner. *Wiener Verz. p. 113. et No. 23.*

GEOMETRA BERBERATA Jungs Alphabet. *Berzeichn. 1. p. 75. —11. p. 370.*

PHALÆNA BERBERATA. Der Gauerdorn Spanner. *Kleem.*
Beytr. Naturf. Inf. Gesch. p. 32. n. 9.

This pretty Moth is produced, according to Fabricius, from a scabrous larva of a brown colour, varied with rufous and white, and which, according to the continental writers in general, as well as Fabricius, is found on the common barberry, *berberis vulgaris*. The larva we have not seen, but, from a minute description and plate in the latter part of the Supplement of Kleeman's *Beytraege*, we are enabled to speak of it in more precise terms than Fabricius, and also to describe its pupa. The larva is of the looper kind, and rather thick in proportion to the length; of a brownish colour, with black dots, and two short black parallel lines at the posterior extremity, extending the length of the three or four last segments. The pupa is chestnut brown, rather inclining to an ovate form, and is inclosed in a spinning woven between two or three leaves, which are drawn nearly together for that purpose.

The species occurs in the winged state, as a native of Britain, in several cabinets, though we have never understood it to be common. We have named it the Barberry Moth, in allusion to the plant on which the larva usually feeds: among the English collectors, it bears two or more indefinite appellations.

FIG II.

PHALÆNA RUMIGERATA.

SCALLOPED-WING FOUR-DOT MOTH.

SPECIFIC CHARACTER.

PHALÆNA RUMIGERATA. Wings deeply angulated, produced behind, and scalloped: pale testaceous, with two transverse dark lines on the anterior wings, and one on the posterior: a fuscous dot in the middle of each wing.



The elongated form of the wings, and depth of the remarkably produced posterior extremity of the lower pair, sufficiently distinguish this from the following species. The example, from which the above figure is taken, appertains to the collection of the late Mr. Drury.

FIG. III.

PHALÆNA QUADRIPUNCTATA,

QUADRIPUNCTATE MOTH.

SPECIFIC CHARACTER,

PHALÆNA QUADRIPUNCTATA. Wings subangulated: somewhat testaceous, with a common line near the base, dot in the middle, and common line behind.



From the same cabinet as the preceding.







P L A T E C C C C X C I X.

FIG. I. I.

P H A L Æ N A T R I N O T A T A.

T R I N O T A T E D M O T H.

L E P I D O P T E R A.

G E N E R I C C H A R A C T E R.

Antennæ gradually tapering from the base to the tip : tongue spiral : wings generally deflected when at rest. Fly by night.

* G E O M E T R A.

S P E C I F I C C H A R A C T E R.

P H A L Æ N A T R I N O T A T A. Very pale testaceous : anterior wings with two whitish lobate spots in the middle, inclosed between two bands of scalloped lines : exterior margin with a series of triangular pale spots, each containing three black dots.



An extremely rare and probably unique insect of the Geometra family of Phalæna. It is a species of elegant and very pleasing aspect, though not in any degree remarkable for the gaiety of its colours.

The chain or series of pale triangular spots, which extends along the outer margin of the anterior wings, is altogether characteristic of this

this species, each of those spaces containing three distinct black dots, which also are disposed in the form of a triangle.

Our present species is of moderate size, as is expressed by the smaller figure: an enlarged view of the same is shewn in the upper part of the plate.

FIG. II.

PHALÆNA LITERATA.

LETTERED MOTH.

SPECIFIC CHARACTER.

PHALÆNA LITERATA. Anterior wings dark fuscous, with waved lines, and a black lineole: band in the middle milky, with a black character resembling T

Larger than the preceding, and perhaps no less uncommon. Both are preserved in the cabinet of Mr. Drury.

A moth very nearly allied to the present occurs in the second part of the work of Sepp, (plate 5.): the general colour differs in being tinged with greenish, notwithstanding which it may be a variety of this species.



2



3



1

P L A T E CXCII.

PHALÆNA HEXAPTERATA.

SERAPHIM MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base : wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER.

AND

SYNONYMS.

Anterior wings varied with brown and grey : posterior white with an appendage resembling a small wing at the base of each.

PHALÆNA HEXAPTERA : feticornis alis fusco griseoque variis :
posticis albis basi duplicatis. *Fab. Ent. Syst. Tom. 3.*
p. 2. 193. 233.

Phalæna Hexapterata. *Wien. Verz. 109. 10.*

Fabricius has given an accurate description* of this extraordinary Insect; but does not refer to any work for its figure. The nineteenth plate of Kleman's Continuation of Roefel's *Insecten-Belustigung*, entitled *Insecten-Geschichte*, certainly escaped his notice;

* Media. Alæ anticæ griseæ, fusco undatæ imprimis basi apiceque, in medio parum dilutiores lunula fusca. Posticæ albæ ad basin ala notha, rotundata, alba, immaculata. Subtus omnes cineræ puncto medio, fusco.—*Fab.*

for in that plate we find both sexes, Figures *a*, *b*: and from this account we learn, that *Phalæna Hexapterata* is a native of Germany. The female has four wings: the male appears at first sight to have six, which is more than any tribe of Insects are furnished with: a small appendage very much resembling a wing, and of the same texture, arising from the base of the second pair of wings next the abdomen. The nerves of the true wing ramify into this appendage; which, when the Insect is expanded, give it a most singular appearance. In the annexed plate this appendage is magnified, in order the more accurately to exhibit its true form and tendons.

Our specimen was taken on Epping Forest in 1795. It is very rare in England. Fabricius says it feeds on the Beech*.

* Habitat in Fago Sylvatica.

